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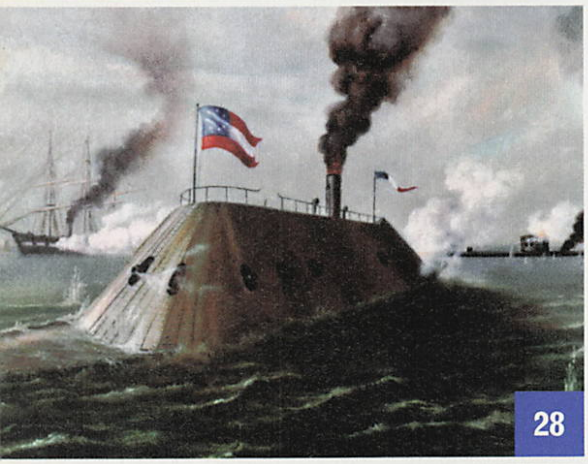

MILITARY HERITAGE

September 2016

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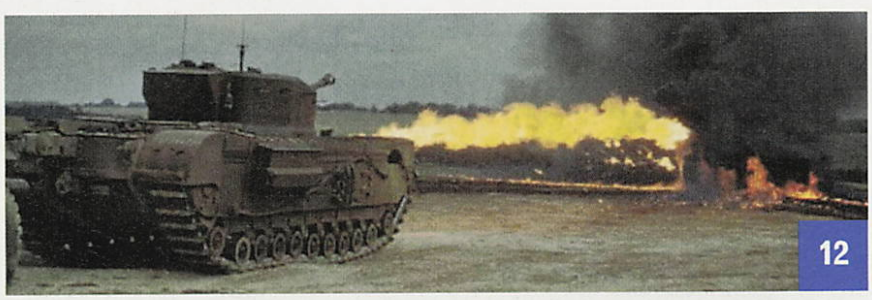

Cover: Napoleon is surrounded by his generals at the Battle of the Pyramids, where the French soundly defeated the Mamelukes under Murad Bey. See story page 52.

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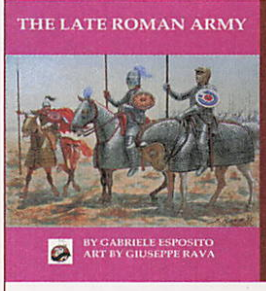

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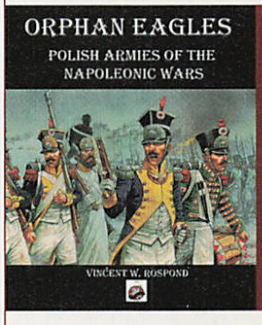

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editorial

Lightning Strike in Sequatchie Valley

"AS THE PACE QUICKENED, THESE CAPTURES THICKENED along the way; and after going ten or twelve miles down the valley to the vicinity of Jasper, there opened the richest scene that the eye of a cavalryman can behold. Along the side of the mountain hundreds of large Federal wagons were standing, with their big white covers on them, like so many African elephants, solemn in their stately grandeur." These were the colorful words of George B. Guild of the Fourth Tennessee Cavalry Regiment. He wrote after the war of his experience in the week-long Confederate cavalry raid led by Maj. Gen. Joseph Wheeler against the tenuous Union supply line supporting Brig. Gen. William Rosecrans's Army of the Cumberland in Chattanooga, Tennessee.

"Fightin' Joe" Wheeler was a complicated figure. Hated by some who fought alongside or under him, he was loved by others. His detractors, not the least of whom was his rival Maj. Gen. Nathan Bedford Forrest, thought the 27-year-old general lacked sound tactical judgment. Wheeler is remembered, among other achievements, for one of the most daring cavalry raids of the conflict, which was the so-called Middle Tennessee Raid in which he destroyed 700 wagons in the Sequatchie Valley.

Rosecrans's army was supplied following the Battle of Chickamauga by mule-driven wagons that made the arduous 60-mile journey from the railhead at Stevenson, Alabama, to Chattanooga. At the close of September 1863, Bragg instructed Wheeler to intercept and destroy the Union wagon trains in the Sequatchie Valley.

On the night of September 30, Wheeler led his cavalry corps across the Tennessee River. A hard rain forced them to bivouac atop Walden Ridge that night. During the night, scouts informed Wheeler that a large wagon train was located six miles away. Ordering half of his men to proceed north to the Federal outpost at McMinnville, Tennessee, Wheeler led the rest to sack the train.

Spying the wagons, Wheeler ordered his buglers to sound the attack. A brigade of Union cavalry rode in front and behind the wagon train, and detachments of infantry marched alongside it, but the Rebels were undaunted. Although his initial attack was repulsed, Wheeler struck again. "A vigorous fire was kept up for a while, when the enemy, seeing that they were greatly outnumbered, surrendered after some casualties on both sides," wrote Guild. Wheeler's men rounded up 1,200 prisoners. The Rebels spent the next eight hours taking what supplies they could carry before burning the wagons. When wagons laden with ammunition were torched, the explosions were heard by Union troops in Chattanooga. The destruction of the wagons deprived several Union divisions of badly needed food and ammunition.

The following day, Wheeler forced the surrender of the 600-man Federal garrison at McMinnville. Afterward, the Rebels torched the Federal stockpiles and spread a swath of destruction from Murfreesboro to Shelbyville. Brig. Gen. George Crook's Second Cavalry Division of Rosecrans's army caught up with Wheeler on October 7. A pitched fight lasting two hours occurred at Farmington when Wheeler ordered his men to dismount and take cover in a cedar thicket. Crook, who had mounted infantry in his command, ordered it to dismount and envelop the Rebels. Artillery unlimbered on both sides. Nightfall saved Wheeler from destruction.

On October 9, the Rebels splashed across the broad Tennessee River at Muscle Shoals, Alabama. Wheeler had suffered 300 casualties at Farmington, and he lost another 100 men cut off before they could escape. While Wheeler's success at destroying the wagon train was admirable, the raid shows the difficulty a Rebel commander had in extracting his command intact from a swift raid.

William E. Welsh

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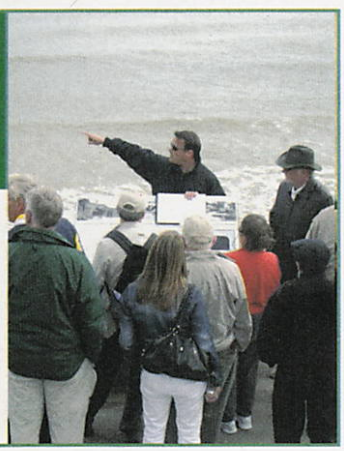

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By Mike Phifer

General Joseph Wheeler used his cavalry effectively against the Union army in the western theater.

The Union army operating in Tennessee knew that Wheeler would be attacking its vulnerable supply train but was not able to prevent it. Wheeler's cavalrymen typically carried off food, clothing, and hospital supplies before burning Union wagons. INSET: Major General Joseph Wheeler.

A COLD RAIN WAS FALLING AS CONFEDERATE BRIG. GEN. JOSEPH Wheeler led his brigade of horse soldiers north from the Confederate position at Stones River at midnight on December 29, 1862. Cutting around the Federal Army of the Cumberland's left flank, which had been slowed in its advance from Nashville during the past three days by Wheeler's cavalry and muddy roads, Wheeler planned to strike the Yankees from behind. General Braxton Bragg, commander of the Confederate Army of Tennessee, had ordered his cavalry commander to harass the Federal army's supply lines. Wheeler did just that.

At dawn on December 30, Wheeler's men struck 64 heavily laden supply wagons. Word of the raid brought two Federal regiments to the scene, intending to drive off Wheeler, but instead they were forced back. With 20 wagons sending billowing smoke skyward, the raiders moved on and struck an encamped supply train at La Vergne, Tennessee. This time 200 wagons were aflame. In addition, the Confederate raiders dispersed 1,000 mules into the countryside and paroled 400 soldiers.

Wheeler was not done yet. Well behind Yankee lines, Wheeler and his men destroyed a third wagon train. Continuing on, the raiders took more wagons and ambulances. After stopping for much needed rest, Wheeler and his troopers were back in the saddle by 2 AM on December 31 and at midday splashed back across Stones River. Wheeler and his men had done an admirable job of damaging the Army of the Cumberland's fragile supply line.

That same day at Murfreesboro, Bragg's infantry drove Maj. Gen. William Rosecrans's Federal army back five miles. Success seemed imminent but, as Wheeler and the rest of the Army of Tennessee were to learn, the Yankees were not beaten yet. Wheeler would soon find himself in a role he would play often in the Army of Tennessee, which was acting as its rear guard under orders to slow the Union advance.

Wheeler was born in 1836 in Augusta, Georgia. His parents were originally from New England. After his father had financial difficulties and his mother died, young Joseph and his family moved back to Connecticut in the early 1840s. Joseph went to school there and after graduation moved to New York City where he became a clerk in a mer-

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cantile office. In 1854, he was accepted into West Point.

Graduating in 1859 near the bottom of his class, Brevet Second Lieutenant Wheeler was assigned to the 1st United States Dragoons and reported for duty at Cavalry School of Practice at Carlisle Barracks in Pennsylvania. A year later, Wheeler was ordered to New Mexico Territory where he was assigned to the Regiment of Mounted Riflemen. On his journey to Fort Craig, he earned the nickname "Fighting Joe" when he helped break up an attack by Apaches.

His tour of duty in the West lasted until 1861. With war looming, Wheeler sided with the South despite his family ties to the North. Although he loved the Union and his position in the U.S. Army, he told his brother, he would resign if Georgia withdrew from the Union. A little more than a month later Georgia did just that and Wheeler submitted his resignation on February 27, 1861.

Less than two months later, Wheeler was appointed a second lieutenant of artillery in the Confederate regular army. He was sent to Pensacola, Florida, where his competence and ability brought him to the attention of Trans-Mississippi departmental commander Bragg. Wheeler was soon promoted to colonel and given command of the 19th Alabama Infantry Regiment at the urging of the officers of that recently formed unit to Confederate Secretary of War Judah Benjamin. Bragg was unhappy with the promotion, though, because he believed Wheeler should not have been promoted over other officers with more experience.

Wheeler drilled his new unit relentlessly. The constant drilling turned them into the well-honed regiment that he would lead into action at Shiloh on April 6, 1862. As part of Brig. Gen. John King Jackson's brigade, Wheeler and his men were in the thick of the fighting.

A combined force of cavalry and infantry under Wheeler's command acted as a rear guard for the Army of the Mississippi as it retreated toward Corinth, Mississippi. During the month-long siege of Corinth, which began on April 28 and ended on May 30, Wheeler helped fend off Union probes. When the army evacuated Corinth, Wheeler once again helped cover its retreat as it marched south to Tupelo.

On June 17, Confederate President Jefferson Davis appointed Bragg as commander of the Western Department, which included the Army of the Mississippi. As part of Bragg's reorganization, he appointed Wheeler on July 13 to serve as his chief of cavalry. Wheeler ordered his troopers to rendezvous at Holly Springs, which lay 60 miles north of Tupelo. Wheeler then led his brigade through western Tennessee. The troopers burned railroad bridges to disrupt Union supplies and clashed with Union forces on eight occasions.

Wheeler helped keep the Union forces off balance throughout the late summer while Bragg marched his army east to Chattanooga, Tennessee, in preparation for an invasion of Kentucky. In August, Wheeler led his cavalry through central Tennessee, covering the west flank of Bragg's army. Wheeler performed well during the march into Kentucky, scouting and battling the Federals. Following the Confederate retreat in the aftermath of the Battle of Perryville on October 8, Wheeler once again covered the army's retreat.

Fanning out to cover the flanks and rear of the retreating army, Wheeler's men felled trees across the muddy roads to slow the Yankee pursuit. Fighting and falling back grudgingly in rearguard actions, Wheeler used his men as mounted infantry when necessary. During the roughly two-month period from late August to late October, Wheeler's men fought 45 skirmishes in support of Bragg's army. For his superb performance, Wheeler was promoted to brigadier general on October 30.

During the Stones River campaign from December 26, 1862, to January 5, 1863, Wheeler once again performed ably, launching hit-and-run attacks with his cavalry on Union wagon trains laden with supplies. During the raids, Wheeler destroyed hundreds of wagons and captured 700 prisoners. For his valor, Wheeler was promoted to major general on January 20. With the increase in rank, Wheeler now found himself in command of every cavalry unit in middle Tennessee, including Maj. Gen. Nathan Bedford Forrest's troops.

In late January, Wheeler set off with about 2,000 troopers to again interrupt Federal navigation on the Cumberland River. Along the way, Forrest with 800 men joined him. Unfortunately, the Federals were aware of Wheeler's presence and purposely avoided sending vessels upstream on the Cumberland. For that reason, Wheeler decided to strike the Federal base at Dover, Tennessee. The Yankees repulsed the February 23 attack.

After the Yankees refused a Confederate demand for surrender, Wheeler ordered his guns to hammer the post. "Little Joe," as he was also called, planned to launch a coordinated attack with Brig. Gen. John Wharton and Forrest's dismounted troopers. Forrest, who assumed the Yankees were abandoning the place, ordered his men to mount up and charge. The Federals met the screaming Rebels with withering rifle and artillery fire that shattered the attack and killed or wounded almost a quarter of Forrest's men. Forrest dismounted his men and joined Wharton's attack , which achieved some success at first but could not breach the Federal earthworks. With casualties mounting, Wheeler called off the attack. Dover remained in Federal hands.

Forrest was in a foul mood. He had objected to the attack before it began. "I mean no disrespect to you," he told Wheeler. "You know my feelings of personal friendship for you; you can have my sword if you demand it; but there is one thing I do want you to put in that report to General Bragg, tell him that I will be in my coffin before I will fight again under your command."

Wheeler declined to take his sword. "As the commanding officer I take all the blame and responsibility for this failure," he told Forrest.

Wheeler spent the rest of the winter drilling his command, which as a result of new reinforcements reached corps strength. Interestingly, he used the manual, *A Revised System of Cavalry Tactics, for the Use of Cavalry and Mounted Infantry, C.S.A.*, which he had written and that was published two years before the start of the war.

On June 27, at Shelbyville, Tennessee, with their backs to the Duck River, Wheeler's 600 horse soldiers attempted to hold back a combined force of Federal infantry and cavalry. Wheeler and a detachment covered the retreat of the majority of Wheeler's command before Little Joe ordered the detachment across the river as well. With Federal bullets whizzing past them, Wheeler and the last dozen troopers swam their horses to the south bank. It had been a close call, but they had gotten across to safety without being captured.

Bragg's army retreated back to Chattanooga in early July with Wheeler and Forrest protecting its rear and flanks. Two months later Bragg evacuated the key town and fell back into Georgia along West Chickamauga Creek. The Army of Tennessee struck back, defeating the Rosecrans's Army in a bloody two-day battle that began on September 19. On the second day, Wheeler's command captured 1,000 prisoners, 20 wagons, and five field hospitals.

The Federal army retreated into Chattanooga, which Bragg soon besieged. Wheeler was ordered into the Sequatchie Valley through which ran a vulnerable Federal supply line. On October 3, Wheeler split his force of 4,000 exhausted troopers and two batteries of horse artillery. Wharton led the larger detachment toward McMinnville, Tennessee, to destroy a Federal supply depot, while Wheeler went after a Federal wagon train. Wheeler captured 32 wagons but soon came upon a 10-mile-long supply train. Wheeler bagged 1,200 prisoners and

his men torched the wagon train. It was a grievous blow to the hungry Federals in Chattanooga. The blow was made worse when Wheeler rejoined Wharton at McMinnville the following day. The reunited command destroyed a locomotive and the attached railway cars.

Wheeler continued the raid by leading his command north across Stones River, destroying bridge and track as he went. On October 6, the Rebel raiders halted near Farmington, Tennessee. The next morning, Federal cavalry caught them, and a vicious fight ensued. Wheeler's men barely held off the bluecoats. At nightfall, the weary Rebels slipped away and headed south for the Tennessee River. Wheeler's men finally got some much needed rest in northwestern Alabama. While there, one of Wheeler's aides penned a glowing report of the raid for a newspaper editor, referring to Wheeler as "War Child." The story was soon printed, and Wheeler had yet another nickname.

ABOVE: Wheeler's Middle Tennessee raid in October 1863 prevented sorely needed supplies from reaching the Union Army of the Cumberland, which was bottled up in Chattanooga. Many Yankees died of starvation and exposure as a result. RIGHT: Wheeler served in the U.S. Army during the Spanish-American and the Philippine-American Wars.

A series of command changes occurred. Bragg resigned on November 29. Lt. Gen. William Hardee took temporary command on December 2, but two weeks later General Joseph Johnston replaced him as commander of the Army of Tennessee.

In early May 1864, Union General William T. Sherman, who commanded three Federal armies, began a slow but steady advance south towards Atlanta. Wheeler and his men played their usual role of scouting, raiding, and fighting rearguard actions. They were also, as one officer wrote, "digging ditches, building breastworks and lying in them for several weeks and the boys are already first-rate infantry." Johnston was unable to stop Sherman. Davis replaced Johnston with the recklessly aggressive General John B. Hood, who took command on July 17.

In late July, Wheeler once again led his army north to disrupt Federal supply lines. Wheeler received information that multiple Union columns were operating in the region. One of these was Maj. Gen. George Stoneman's cavalry force operating southeast of Wheeler, and the other was Brig. Gen. Edward McCook's column that was working in tandem with Stoneman and operating southwest of Wheeler. One of the objectives the Federal cavalry columns had been given was to liberate prisoners from the notorious Confederate prison camp at Andersonville, Georgia. Neither would make it. Wheeler first caught up with McCook and defeated him on July 30 at Brown's Mill near Newnan, Georgia. McCook's force split up but was captured over the course of the next few days trying to return to Union lines. As for Stoneman, his command was beaten on July 29 by a much smaller force of veteran Confederate cavalry under Brig. Gen. Alfred Iverson at Macon, Georgia. Stoneman was taken prisoner two days later during the Battle at Round Oak, Georgia.

Wheeler's men had not gotten much rest after defending the army's supply line when they were ordered on a deep raid into Tennessee to disrupt Sherman's supply line and, it was hoped, force him to retreat. On August 10, Wheeler set out with 4,500 men on a sweeping raid through eastern and central Tennessee. Little Joe's raiders returned to Rebel lines in Alabama in mid-September after having severely damaged Sherman's supply line. During the course of their raid, Wheeler's horse soldiers had captured 600 prisoners, 200 wagons, 1,000 horses and mules, and a herd of cattle. But this did not deter Sherman. The tenacious Union commander, who enjoyed overwhelming numerical superiority, captured Atlanta on September 2.

For two weeks Wheeler rested his men in northwestern Alabama before returning to service. While Hood would soon lead the Army of Tennessee on an ill-fated invasion of Tennessee, Wheeler would lead his cavalry after Sherman, who was marching to Savannah.

After capturing Savannah in late December, Sherman turned his armies north for the Carolinas. Wheeler and his troopers, who by then were under the command of Lt. Gen. Wade Hampton, could do nothing to stop the Federal juggernaut. Rejoining the Army of Tennessee, once again under Johnston, they went into one of the final battles of the war at Bentonville, North Carolina, on March 19, 1865. During that battle, Wheeler commanded a cavalry corps under Hampton. The following month, Fighting Joe fought his last battle of the conflict on April 15 at Chapel Hill, North Carolina.

Wheeler and Hampton later met up with Davis, who had departed the Confederate capital at Richmond, Virginia, and was attempting to make his way to Texas where he hoped to continue the war. They were attempting to raise an escort for him when word reached them that Johnston had surrendered to Sherman on April 26 near Durham Station, North Carolina.

Wheeler did not consider himself bound by the surrender nor did his men, most of who had left for home. Raising a small corps of men, Wheeler set out to rendezvous with Davis, but he did not make it. Wheeler and his small band were captured by Federal cavalry.

Wheeler was paroled from Federal prison on June 8, 1865. He saw military service again during the Spanish-American War, both in Cuba and in the Philippines. During a battle in Cuba, Wheeler shouted, "We've got the damned Yankees on the run!" Both he and those around him broke into hearty laughter at the mistake. The famous Confederate cavalry general died in Brooklyn in 1906. He is buried in Arlington National Cemetery. □

By Phil Zimmer

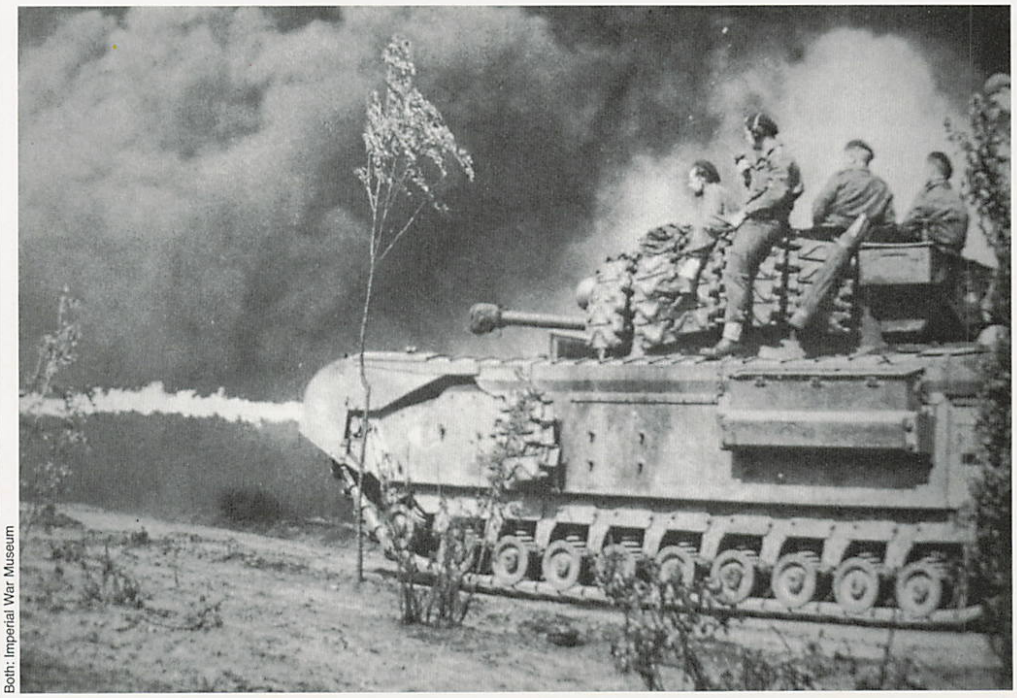
Hobart's Funnies were modified Churchill and Sherman tanks with odd-looking features used to support the Normandy landings on June 6, 1944.

THE ELITE GERMAN PARATROOPERS, WHO WERE SOME OF THE finest fighters in the service of the Third Reich, believed they were exceptionally well prepared to defend the deep water port of Brest on France's Brittany coast against an impending attack by the Allies. By mid-September 1944, the Germans had had time to dig deep trenches, string thousands of miles of barbed wire, lay deadly mines, and establish interlocking fields of fire to ward off anyone foolish enough to approach by land. The centerpiece of the German defense was Fort Montbarey, an 18th-century French fort located just two miles west of the city's walls. The fort's stout masonry walls were coupled with a massive 40-foot earth embankment and a historic 40-foot-wide, 15-foot-deep moat. Enemy pillboxes and well-placed machinegun positions were located outside the fort, which was further protected by a 10-foot-deep, 13-foot-wide antitank ditch and a 200-foot-wide minefield laced with buried 300-pound naval shells with hair-trigger igniters that could easily obliterate any oncoming tanks.

The U.S. Army Air Forces' massive effort to use aerial bombing to shake the Germans' resolve did little more than create a cratered terrain around the fort and further solidify the defenders' determination to hold the fort at any cost. But the Nazis were not prepared for the determination of Major Tom Dallas, the newly appointed commander of the 1st Battalion, 116th Infantry Regiment of the U.S. Army and British soldiers of the 141st Regiment, Royal Armored Corps, with their 15 flame-throwing Crocodile tanks. The Crocodile was one part of an odd-looking British tank force nicknamed Hobart's Funnies.

The fighting began at 8 AM on September 14, and the going was exceptionally slow as the American infantry moved forward against the well-entrenched Germans. The British and Americans worked well together, with the Americans clearing a mine-free path for the advancing tankers and providing the infantry to protect the tanks from concealed Germans equipped with lethal panzerfaust antitank weapons.

By 4:45 PM, three Crocodiles under the command of British Lieutenant Hubert A. Ward had edged toward the minefield, backed by



The modified Churchill Tank known as the Crocodile featured a flamethrower in the position normally occupied by a hull machine gun. It was particularly effective against enemy-held bunkers and trenches. INSET: British armored expert Maj. Gen. Percy Hobart.

Both: Imperial War Museum

four conventional tanks to provide covering cannon fire. The Crocodile was a Churchill tank in which the hull machine gun had been replaced by a flame thrower. It was particularly effective against enemy-held bunkers and trenches. Each of the three Crocodile tanks towed an armored trailer with 400 gallons of flammable fuel that could be forced to the tank and projected as far as 120 yards in front and ignited by an electric spark.

Suddenly there was a huge explosion as the second Crocodile struck a hidden naval shell, instantly killing the driver and blocking the way forward for the following tanks. Without hesitation, Ward directed his lead tank forward in a lone assault. The assault, though, would prove key to turning the tide of battle. As the Crocodile moved forward firing flame, stunned surrendering Germans began running out of the pillboxes outside of Montbarey's thick walls. More than 75 terrified Germans surrendered to the U.S. infantry. Ward and his intrepid tank crew continued forward through the minefield, antitank ditch, and craters, creating a "burning track of death through the rich harvest of machine guns and light antiaircraft and antitank guns," according to the unit's postwar history.

Fiercer fighting would be needed to take the port, but the British and their Crocodiles had helped win the day.

Although ultimately used against German-held ports in other regions of France than Normandy, Hobart's Funnies initially were developed to ensure successful landings at the five beaches in Normandy where the Allies came ashore on June 6, 1944. These beaches were protected not only by concrete bunkers housing a variety of guns, but also by beaches strewn with all manner of mines and steel obstacles.

To address the multitude of enemy-constructed obstacles incorporated into the German shore defenses, the Royal Engineers were inspired and assisted by British armor expert Maj. Gen. Percy Hobart. Lt. Gen. Sir Archibald Wavell, commander of British forces in the Middle East, had forced Hobart into early retirement in December 1939 largely because of Hobart's unconventional ideas about armored warfare. British Prime Minister Winston Churchill had Hobart reappointed in February 1941. The prime minister had a knack for spotting and tolerating those whose ideas differed from the mainstream. The fact that Hobart was British Field Marshal Bernard Montgomery's brother-in-law was kept rather carefully concealed by both men, because each

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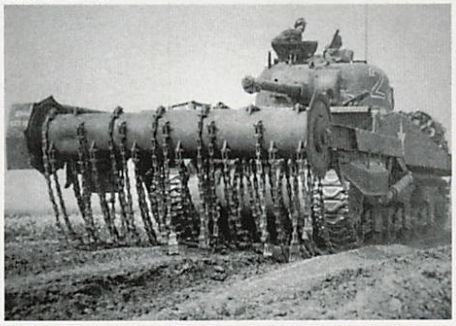
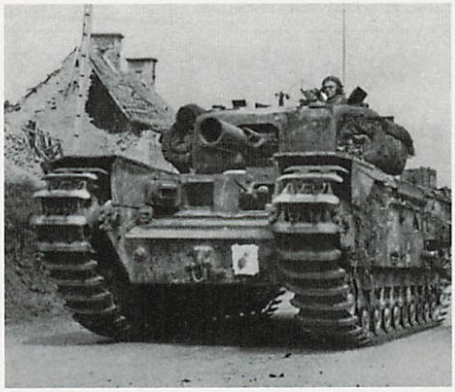


ABOVE: The Sherman Crab featured a rotating cylinder with weighted chains designed to detonate mines for follow-on forces. BELOW: The Churchill AVRE Fury featured a petard mortar that fired a 40-pound projectile intended for use against concrete bunkers and roadblocks.



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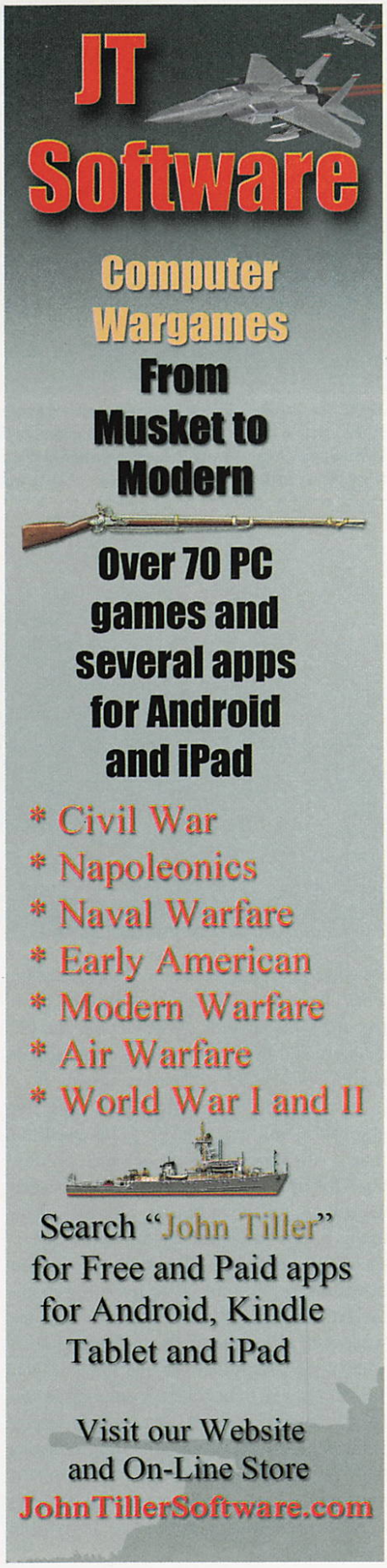
would have to sink or swim on his own without assistance from the other.

An illness compelled Hobart to take a three-month hiatus from February 1942 to May 1942, but he was back at work by late spring. Hobart subsequently took command in October of the British 79th Armored Division. The division was about to be disbanded in early 1943, but Chief of the Imperial Staff Field Marshal Alan Brooke found a way to keep it together. Brooke renamed it the 79th Experimental Armored Division Royal Engineers. He tasked it with designing and testing prototypes of tanks modified in such a way as to help breach the Atlantic Wall when the Allies eventually opened up a second front in Western Europe by invading France. Hobart would build on the success of a design and testing effort known as Exercise Kruschen that took place in Suffolk in March 1943 in which British engineers working with other members of the British military had tested the efficacy of deploying sappers on specialized armored engineering vehicles. Under Hobart's supervision, the training and equipping of the 79th Experimental Armored Division Royal Engineers was undertaken in East Anglia, Suffolk, and South Wales. In preparation for the beach assaults,



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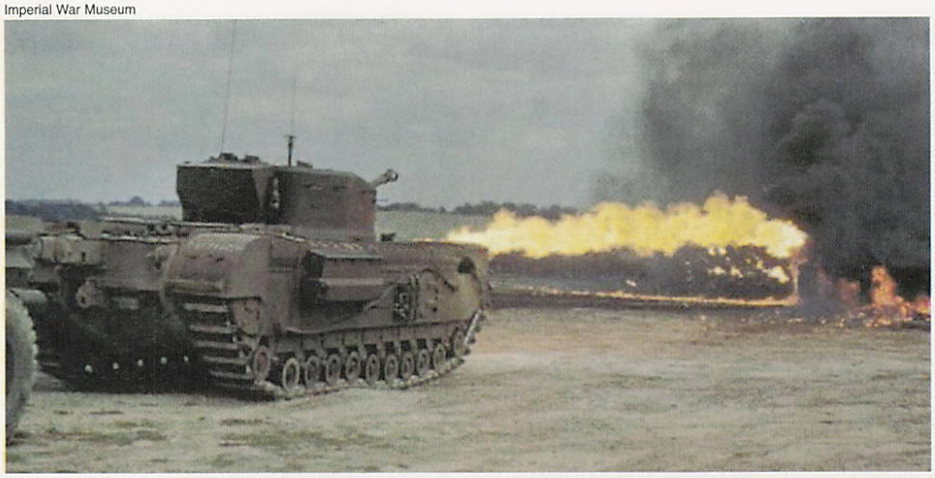
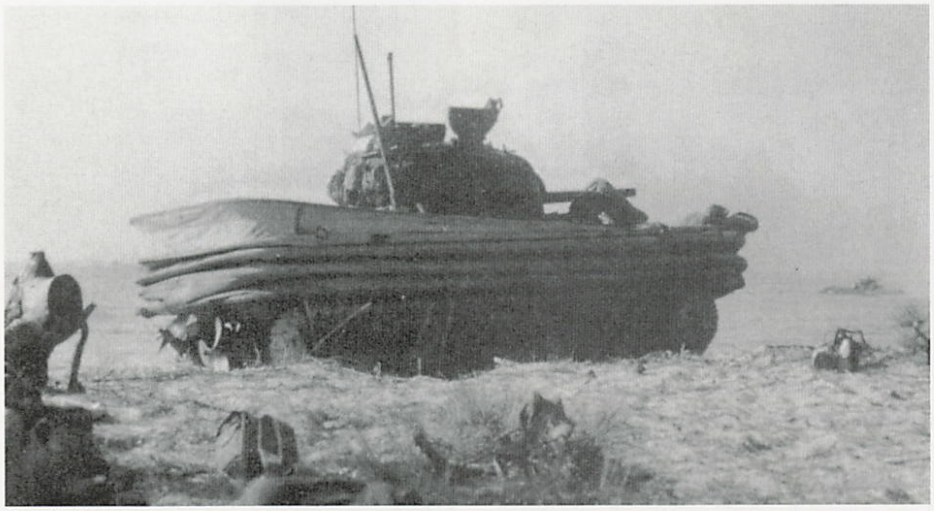


ABOVE: The Crocodile's flamethrower was connected to an armored trailer that carried 400 gallons of flammable fuel. BELOW: Most of the retrofitting involved modifications to the British Churchill tank or to the U.S. Sherman tank. The Sherman amphibious tank outfitted with a watertight canvas housing was designed to float to shore from a landing craft at sea. Heavy seas on D-Day caused a number of these tanks to sink, drowning their crews.



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the Allies had built facsimiles of the obstacles, which were based on analysis gleaned from reconnaissance photos of the German coastal defenses, and used them in dress rehearsals of landings undertaken at the training sites.

Many of the ideas used by Hobart were not original. Some already had been conceived and tested with various degrees of success. But it was Hobart and his engineers who debugged the devices, for the most part, and made them usable on the battlefield against highly experienced and highly gunned, well dug-in German defenders. For example, the Scorpion, a modified Matilda tank, had been used with some success to clear minefields in North Africa while the Russians had adapted some of their T-34 tanks with mine rollers. Bridge layers and fascine carriers also had been used elsewhere, but it was Hobart and his engineering assistants who refined the technologies and brought together the largest and most elaborate collection of specialized equipment to assault the Atlantic Wall.

Most of the retrofitting involved modifications to the British Churchill tank or the U.S. Sherman tank. Each had its advantages. The Churchill had overall good performance traversing various kinds of terrain, and the Sherman was dependable because of its mechanical reliability.

D-Day was the big coming out for Hobart's Funnies. "It was the overwhelming mass of armor in the leading waves of the assault, the specialized equipment coming as a complete surprise, which overwhelmed and dismayed the defending troops and contributed in large part to the combination of strategic and tactical surprise which resulted in comparatively light casualties suffered by our troops on D-Day," stated the 79th Division's final report.

For clearing mines, the Allies used modified Sherman tanks called Crabs. The Sherman tanks were outfitted with chain-and-ball flails that spun on a large drum mounted at the front of the vehicle. The Crab was a marked improvement over the earlier Scorpion, which was used with some success in North Africa. The Crab was a simplified version, using a direct drive shaft from the tank's own engine rather than its predecessors' more complex system that relied on two rather unreliable auxiliary motors to spin the drum.

The Crab retained the Sherman's 75mm main gun, enabling the vehicle to double as a gun platform. When flailing, the turret was turned so the main gun was facing toward the back to prevent damage from exploding mines. There was still room for improvement, as the Allies discovered, because on uneven ground the boom tended to rise, causing the flails to miss the ground and leading to deadly results for some unfortunate tank crews. Still, the Crab was a substantial improvement over both the Scorpion and hand-clearing. Crab crews were able to clear a nine-foot-wide path at upward of 1.5 miles per hour over reasonably level land.

The largest and most diversified category of Hobart's Funnies was the Armored Vehicle Royal Engineers, or ARVE. The AVRE was not actually a British invention but a Canadian one. It was the brainchild of Lieutenant John James Denovan of the Royal Canadian Engineers. Denovan, who had been a civilian engineer before the war, was assigned to the British Army Department of Tank Design.

Denovan had lost a number of friends in the disastrous August 1942 Dieppe raid when the Canadian tanks bogged down on the sand and shingle of the beaches. That prompted Denovan and others in the Canadian ranks to look for more efficient ways to get tanks off a landing beach to bring them to bear against hardened, prepared German positions. Denovan and his colleagues prepared a report for the War Ministry in which they stated their desire to develop devices that would enable Allied tank crews to surmount obstacles without having to expose themselves to enemy fire in the process.

Subsequently, Denovan and other engineers identified a variety of tasks they wished the devices to accomplish, such as carving a safe path through a minefield, crossing antitank ditches, demolishing obstacles with explosives, destroying bent rail obstacles, and laying mines under fire. One of the devices Denovan explored during the subsequent testing period was the Blacker Bombard, invented by Latham V.S. Bombard, a retired British Army lieutenant colonel. He initially developed the bombard early in the war as a spigot mortar to be used as an antitank weapon. It was a large and heavy weapon, weighing in at 300 pounds, that used black powder to propel either a 14-pound high explosive or 19.5-pound armor-piercing

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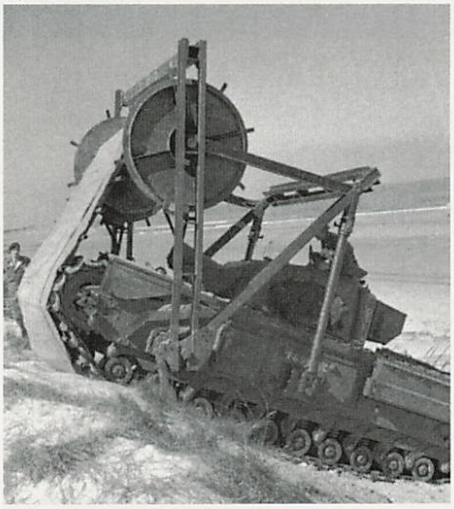

The Churchill ARVE Bobbin featured a 10-foot-wide canvas cloth reinforced with steel poles that unrolled onto the ground. The canvas offered traction over the soft sand of the invasion beaches.

round 450 yards, with an effective range of 100 yards. Within a few weeks, Denovan and his crew had modified the weapon so it was capable of accurately firing a shell filled with 29 pounds of high explosives up to 80 yards. Testing proved that the mounted mortar, which was called a petard after the French explosive device of the 16th century, could destroy reinforced concrete structures. The device was given the go-ahead as a replacement for the Churchill's main gun on selective tanks.

The AVRE was designed to carry a variety of equipment needed to span obstacles or remove them from the path of follow-on forces. AVREs were designed to handle a variety of missions, including laying carpets across obstacles, deploying assault bridges, filling in ditches with fascines, recovering vehicles, and plowing mines.

One of the better known of Hobart's Funnies was the carpet-laying device known as a bobbin. The initial nine-foot-wide canvas carpet unrolled in front of the advancing tank from a horizontal roller mounted in front on twin arms. Later the mat was replaced by an 11-foot-wide, 100-foot long canvas reinforced by wire and chestnut saplings, developed for foot and light vehicle traffic. Once the D-Day landing sites were firmed up by the planners, aerial reconnaissance revealed that blue clay on some of the beaches would bog down vehicles. Consequently, modifications were made and a heavier mat reinforced with steel shuttering was used, and the carpet was extended to nearly 350 feet in some cases.

The AVREs also could be equipped to carry what the British called a Box Girder, basically a 34-foot-long assault bridge mounted on the front of the tank. It could span a 30-foot gap and support a 40-ton load, sufficient to carry any of the vehicles used on D-Day, including a Churchill tank or another AVRE. The more complicated armored ramp carrier was a turretless Churchill tank with ramps at each end so that other tanks could move up the ramp, over the tank, and down the other ramp to proceed onward.

One of the simpler devices was the fascine carrier, consisting of a cradle on front of an AVRE to carry a eight-foot-diameter bundle of 11-foot-long saplings that could be released to fill ditches or trenches so the advancing tanks could cross. The Bullshorn Plow consisted of a plow that cleared the area in front of each track and could be used over irregular, crater-filled terrain to clear crucial areas of land mines that might be missed by the flailing Crabs.

The AVRE also served as a platform for various other miscellaneous devices and applications. One of these was the twin Bangalore torpedo. This application involved outfitting the front of an ARVE with a light framework that allowed the twin torpedoes to be placed and fired by soldiers who were protected by the vehicle. Another was known as the Porpoise. It was a waterproof sledge towed by an ARVE designed to keep additional demolition and ammunition stores dry while being transported.

Omaha Beach did not have the benefit of AVREs. The Americans, admittedly, had not warmed to the idea of using AVREs that were based largely on British-designed tanks. That would have entailed a distinct, late-in-the-planning learning curve for the American tankers. Also, it would have necessitated initiating another redundant stream of replacement parts and supplies for the non-Sherman tanks. The Americans were not opposed to innovation, and they did accept and use the dual-drive swimming Shermans.

After the Normandy landings, the Allies employed Hobart's Funnies in other key parts of the liberation of German-occupied Western Europe, such as the capture in September 1944 of heavily fortified port cities such as Le Havre, Boulogne, and Calais, and other key coastal operations such as the opening of the Scheldt River in the Low Countries.

But ultimately it was the overall quantity of Allied war matériel, coupled with the valiant men, that made the real difference throughout the long and bloody war. It was the combination of war matériel and the brains, brawn, and sheer determination of those involved that made the difference in how the AVREs and related implements of war were used to force the Nazis back toward Berlin and eventual capitulation. □

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By Arnold Blumberg

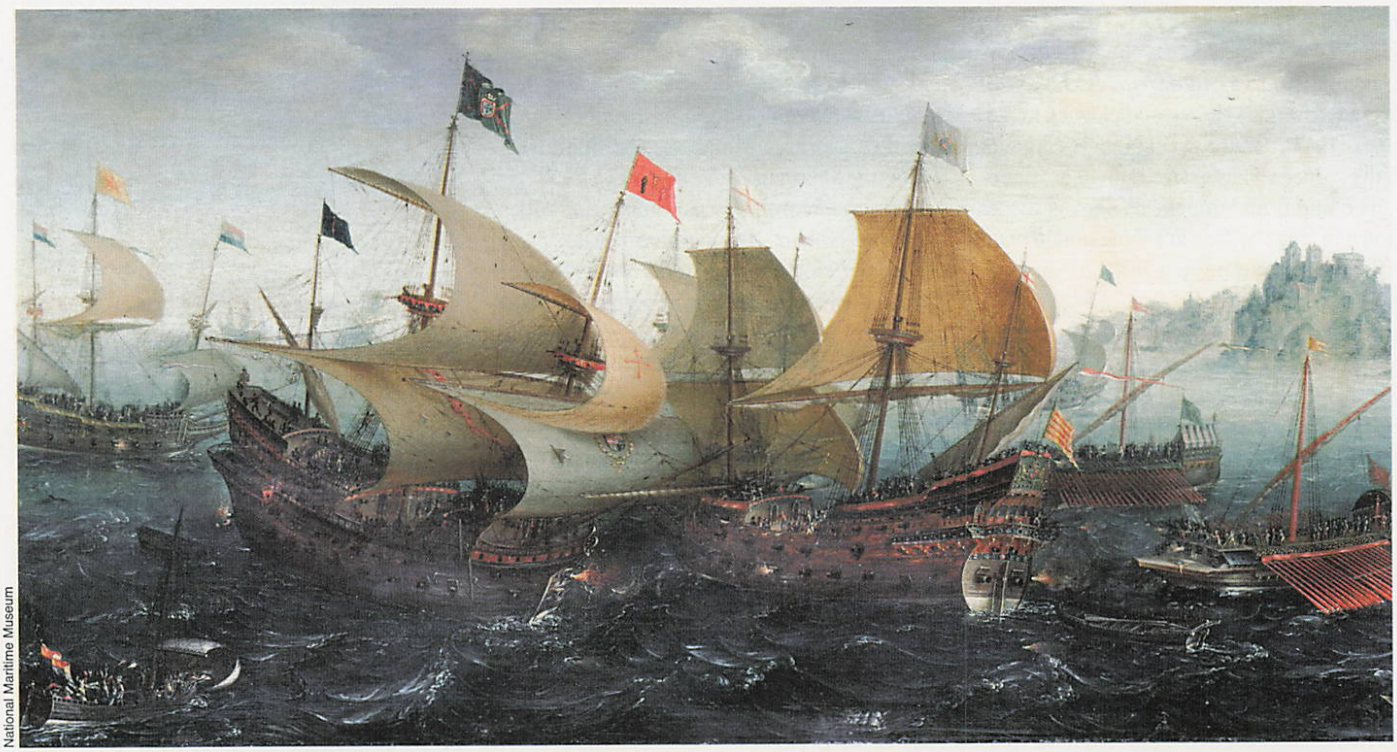
Principal Secretary Sir Francis Walsingham resorted to all manner of espionage in the service of Queen Elizabeth I.

Information received from an English spy working in Rome for Sir Francis Walsingham led directly to Francis Drake's raid on Cadiz harbor. This was a preemptive strike against the Spanish Armada being assembled for an invasion of England.

AMONG THE MANY PORTRAITS OF FAMOUS ELIZABETHANS hanging in London's National Portrait Gallery is that of Sir Francis Walsingham, painted around 1587 by the artist John De Critz the Elder. It is an uncompromising study of an equally uncompromising man. The finely chiseled face, with its neatly trimmed beard, aquiline nose, and receding hairline appears to the viewer as cold, cruel, and calculating. His dark complexion added to the air of danger and mystery surrounding him and caused Elizabeth to jokingly call him the Moor or Ethiopian. The picture exudes the intenseness and essence of the subject's personality, which was both unyielding and gloomy, suggesting he was man with whom one should not trifle.

Walsingham was far from just a paper-shuffling bureaucrat. He was heavily involved in forging and implementing England's foreign policy beginning in 1573 while serving as the equivalent of a modern United Kingdom foreign secretary or U.S. secretary of state, but he was also responsible for more sinister activities. He was Queen Elizabeth I's spymaster, secret policeman, and propaganda chief, and each of those tasks touched the lives of the three and a half million subjects of the English Crown.

During his single-minded mission to both protect the queen from the threat of assassination and defeat the many Catholic enemies of her government both domestic and foreign, this ruthless and completely loyal servant of the English Crown employed all the devious techniques used by modern intelligence communities known as tradecraft. Among these were the use of dead-letter boxes, complex ciphers, and secret writing. Other schemes involved bribery, extortion, blackmail, forgery, and double or triple agents. He even resorted to torture to extract timely and incriminating



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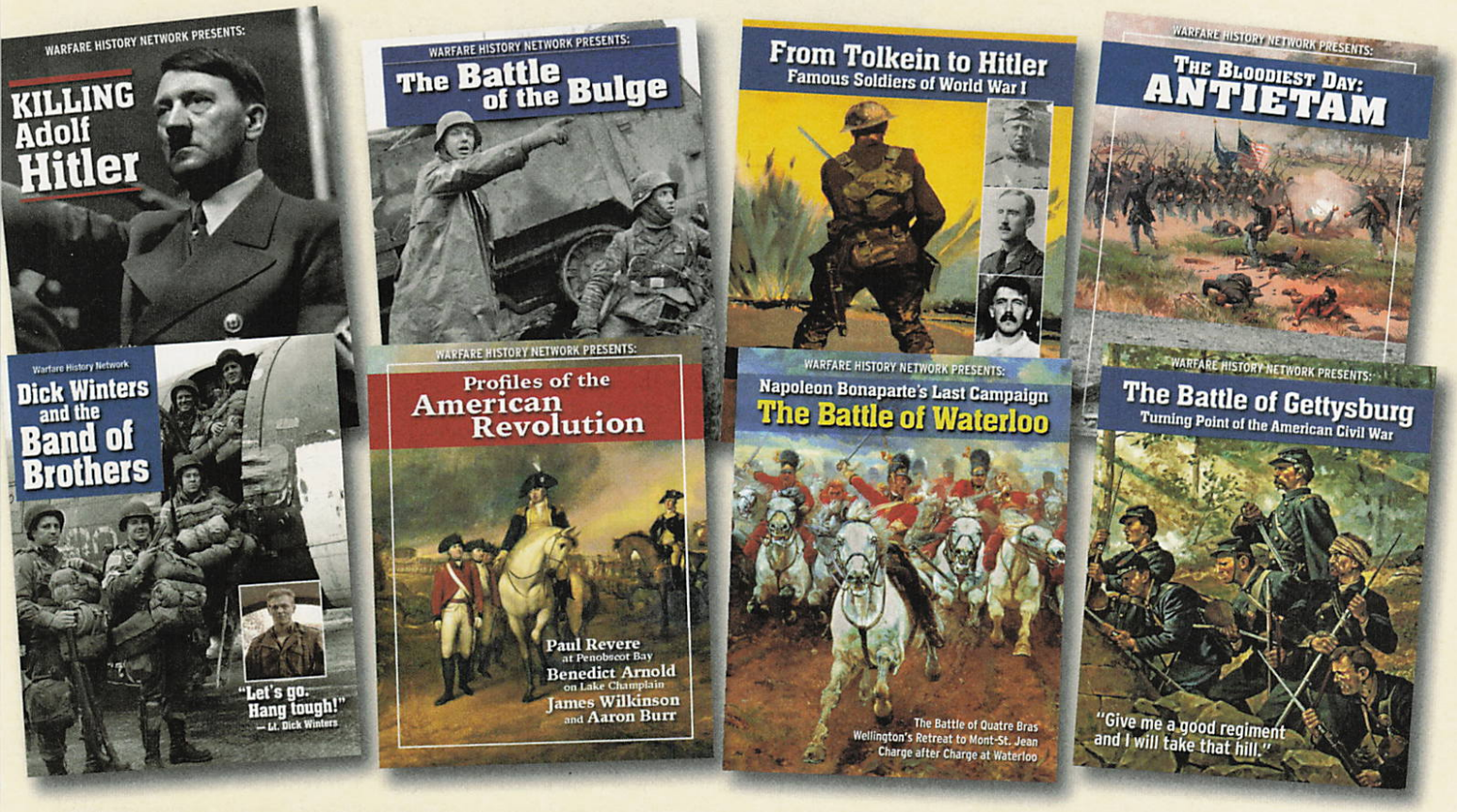
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evidence from helpless prisoners.

The First Secretary's clandestine activities combined the roles of today's British secret service (MI6), Security Service (MI5), and the Special Branch of the Police. He not only was involved in gathering and analyzing vital military and diplomatic intelligence but also trapping and ruthlessly destroying all subversives plotting the downfall of the queen's regime. At its peak, his espionage network numbered 53 spies, 18 agents stationed in foreign lands, and numerous informants throughout England. He also employed a range of technical experts such as code breakers and even an expert at opening and then resealing letters without the sender or recipient knowing.

Walsingham's methods were responsible for sending many high- and low-born individuals to the executioner's scaffold. His security apparatus and international financial machinations were major factors in the defeat of the Spanish Armada. But his most chilling duty was masterminding his government's intensive campaign, at home and abroad, against Catholic missions sent to England. Those who took part in such activities, as well as the people who harbored them, were viewed by those in power as rebels and traitors intent on overthrowing the Tudor dynasty and replacing the new official state religion of Protestantism with Catholicism.

The man who sat spider-like at the center of an incredible late 16th-century web of deceit, deception, and information-gathering network was born in 1532 at the family homestead of Chislehurst, Kent. He was the only son of William Walsingham, a London lawyer who held large land holdings in Kent. His mother, Joyce, came from the Denny family whose members were influential advisers to King Henry VIII. From the early 1400s, the Walsingham clan rose in wealth and social status from London shoemakers to landlords of numerous London properties and engaged in the wine and cloth trade. William died in 1532 leaving behind a young widow, five daughters, and two-year-old Francis.

At age 16 Francis was sent to King's College, Cambridge, a bastion of Protestant learning where the teenager came to fervently embrace the nation's newly established religion. In 1551 he travelled to Europe. When Queen Mary Tudor ascended the English throne in 1553 and sought to replace Protestantism with the Catholic faith Walsingham again went to Europe to escape the religious persecution Mary's government began to inflict upon English Protestants. Four years later, with Mary dead and the Protestant Elizabeth I now on the throne, he returned to England. Besides reinforcing his Protestant faith, this second European excursion made him fluent in French, Italian, and Latin.

Walsingham was responsible for sending many high- and low-born individuals to the executioner's scaffold. He uncovered plots by Mary Queen of Scots to dethrone Queen Elizabeth I. Mary, the Catholic claimant to the English throne, is shown going to her execution in 1587.

He married in 1562, but his bride died two years later. Francis remarried in 1564 to wealthy widow Ursula Worsley. The couple was married for 24 years and had two daughters. By this time Walsingham was a confirmed Puritan with all the attributes associated with the breed: smug, boorish, and nitpicking, constantly demanding ever more Protestant reforms in the Protestant Church of England. What set Walsingham apart from the run-of-the-mill Puritan was his wry, self-deprecating humor and, most importantly, his most outstanding trait: the way he kept his own council; the fact that he never let a stray word slip; and how he lived by the motto "Video et taceo" (See and keep silent). It was said by contemporaries that "he saw every man, and none saw him."

In 1568, the 36-year-old Walsingham started his distinguished, hard, and thankless career in Elizabeth I's service when he took on secret assignments for the Queen's Chief Minister Lord Cecil. Among his first acts included intelligence gathering about plots against the life of Elizabeth and Cecil, setting up surveillance of possible foreign agents arriving in London, and keeping tabs on the activities of Mary Queen of Scots—the Catholics' choice to replace Elizabeth I on the English throne—and her inner circle who now resided in England as unwanted guests and virtual prisoners of the English government.

In that year Walsingham got the opportunity to try his hand at being both a government propagandist and spy master when a scheme was uncovered involving the possible marriage of England's most powerful peer of the realm, Thomas Howard, Duke of Norfolk, to Mary Queen of Scots. Such a union would not only unite England and Scotland but cement Mary's Catholic claim to the English throne. Such a proposition was intolerable to the Protestant rulers of Elizabethan England, and Walsingham was tasked with stirring up popular opposition to the marriage. He did a masterful job in doing so with a pamphlet he wrote that blackened the character of Norfolk and Mary using a number of truths and half-truths to provide evidence supporting opposition to the union. It demonstrated his talent for producing the rawest propaganda aimed at the willing audience of England's Protestants.

While investigating the matter of Mary Queen of Scots' possible marriage to Norfolk, Walsingham also gained his first experience with interrogation. The suspect in question was an Italian banker, Roberto Ridolphi, who on the orders of Pope Pius V had been channeling money to English Catholics and Norfolk with the intent of overthrowing Elizabeth's government. The result of his interaction with the Italian was that Walsingham, in espionage parlance, "turned" Ridolphi and persuaded him to become a government double agent. This revealed another of Francis' salient traits, which according to his friend and antiquary William Camden, showed that he was "a most subtle searcher of hidden secrets, who knew excellently well how to win men's minds unto him and apply them to his own use."

Gaining much esteem from his successful derailing of the Norfolk-Mary Queen of Scots marriage scheme, as well as thwarting Ridolphi's plans of a government overthrow, Walsingham was sent on a diplomatic mission to France to win security for the Huguenot Protestants after the conclusion of its civil war, which ended in 1570. His efforts in that matter soon earned him, against his wishes, the ambassadorship to France, where he spent much of his time trying to seal a marriage contract between his queen and one of the royal French princes and forging an effective alliance between France and England against Spain.

While in France he also acted as a trusted unofficial adviser to the queen regarding European diplomatic affairs.

On his return to England in 1573, Walsingham was tasked with orchestrating repressive measures against the mainly Catholic population of the nations of northern Europe. To confirm his new authority, he was named a privy councilor and one of Elizabeth's two principal secretaries of state on December 20, 1573. The post involved the rather mundane responsibilities of handling all papers regarding international affairs, going to various foreign embassies, and tracking national projects, such as construction works, dealing with seagoing piracy, regulation of trade, and overseeing royal patronage appointments. It appears that the stress of this huge amount of monotonous work was relieved by Walsingham's only recreational activity: hunting rabbits with his pet greyhounds.

Queen Elizabeth I and Sir Francis Walsingham. Walsingham doubled as Elizabeth's principal secretary and spymaster.

In addition to his duties as secretary of state, Walsingham was assigned to the far more exiting and sinister responsibilities of being the queen's secret policeman. This work involved employing an army of informants (paid for by the government and at times out of Walsingham's own pocket) to root out treason, using torture to extract incriminating confessions and information and hunting down fugitive Catholic priests throughout the country. Being a passionate Puritan, Walsingham saw a desperate need for all Protestants to unite internationally against the might of the Catholic powers and was prepared to use any method, no matter how devious, to protect English Protestantism. As stated by Scottish King James VI in 1583, Walsingham was "very Machiavellian in his religious fervor."

The First Secretary needed all the "religious

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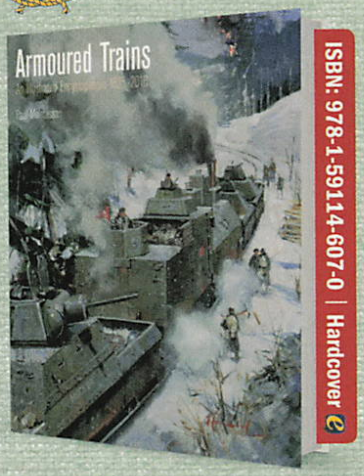

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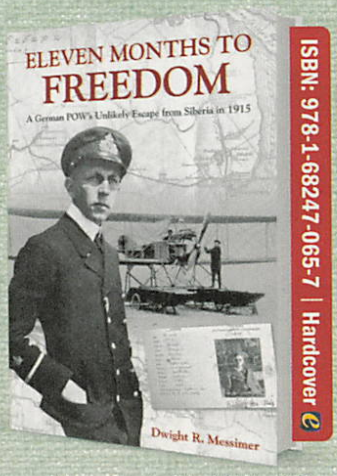
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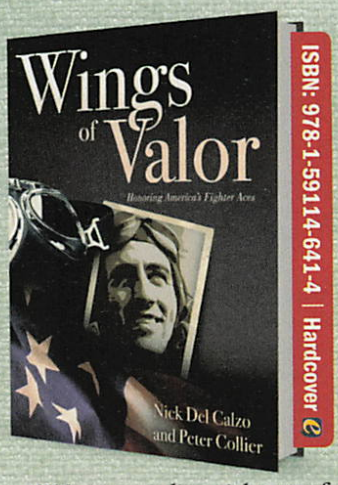

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COUNTERPUNCH AT GERMANTOWN

ON THE MORNING OF SEPTEMBER 11, 1777, 19-year-old Gilbert du Motier, the Marquis de Lafayette, calmly sat on his horse next to George Washington, commander in chief of America's revolutionary forces. The two men could see the dust as parts of a 15,000-man force under Viscount General William Howe, commander of British forces in North America, formed in the distance across Brandywine Creek and a small American force moved into position on the other side of the water. Lafayette and Washington were on the high ground north of the creek west and a little south of Philadelphia.

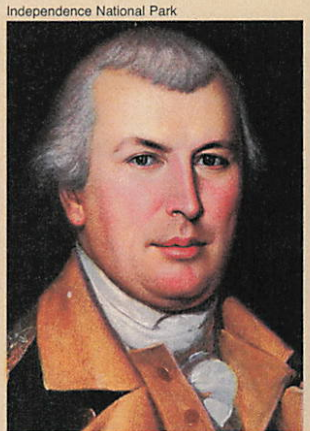
The youthful Lafayette had never been in combat. The previous December, he had met in Paris with American agent Silas Deane and volunteered to fight with the American rebels. Lafayette had recently become a Freemason and talk of the rebellion with descriptions of a brave American people fighting for liberty had fired his youthful idealism. "My heart is dedicated [to the Americans]," he said at the time.

Negotiations between American agents and French officials had been continuing since early in the conflict. The Americans sought French supplies, manpower, and naval support. As for the French, they hoped that by aiding the Americans they could restore French influence in North America and revenge their loss to Great Britain in the French and Indian War. The French already were secretly aiding the Americans by supplying large quantities of gunpowder, but they were uncertain as to the strength of American arms and of the Patriots' ability to defeat the British. That uncertainty held them from further yanking the tail of the British lion with any official and public alliance with the Americans.

Lafayette had set sail for the newly formed United States in April 1777 and arrived in South Carolina on June 13. He travelled to Philadelphia, the Patriot capital, and presented himself to the overburdened Continental Congress, which was beset by foreign officers demanding high position, many of whom could barely speak English. Lafayette used his Masonic membership, as well as his charm and willingness to serve without pay, to gain access to the leaders of the rebellion. The members of the Continental Congress named Lafayette a major general without command on July 31, 1777, and he rode to join Washington.

The two men met at a dinner in August. Washington, who was as charmed by the young Frenchman as the Congress had been, gave the young Frenchman a position on his staff. The British subsequently landed south of Washington's force in late August, and after a sharp clash on September 3 at Cooch's Bridge in Delaware, hard marched toward Philadelphia. Washington responded by abandoning his position on Red Clay Creek near Newport, Delaware, and deployed his men along the Brandywine at Chadds Ford, which lay astride the most direct route to Philadelphia.

Independence National Park



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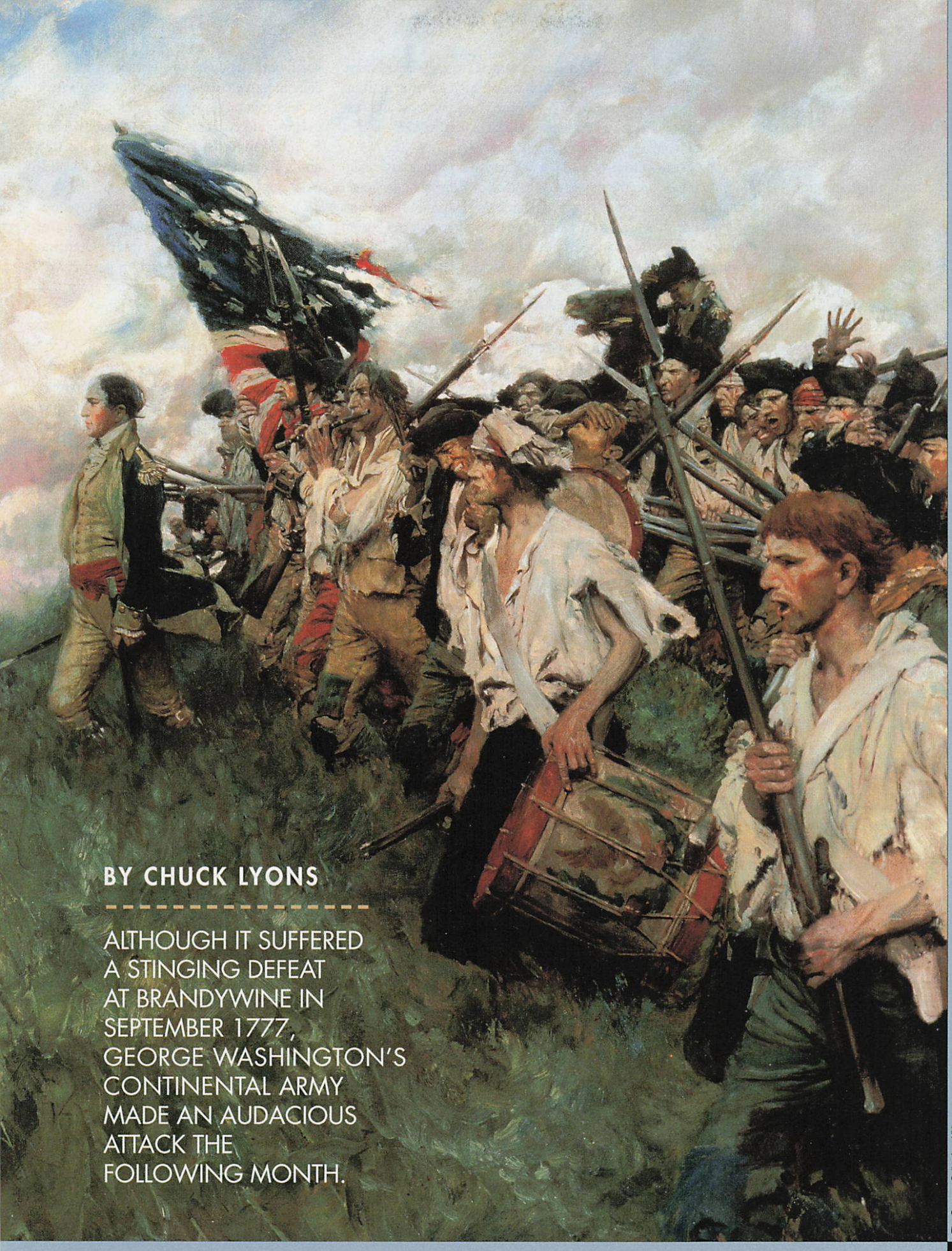
Facing off at Brandywine were (left to right) American Maj. Gen. Nathanael Green, American Maj. Gen. John Sullivan, and British Colonel Thomas Musgrave. OPPOSITE: Patriots go forward to meet the British at Brandywine in an iconic painting by American artist Howard Pyle. General George Washington deployed his forces on the high ground east of Brandywine Creek to check an advance against any of the principal fords on the creek.

Shortly after the American Revolution began at Lexington and Concord, Massachusetts, in April 1775, Washington appeared at the Second Continental Congress in a military uniform. He had prestige, military experience and bearing, and a reputation as a steadfast patriot. The members of the Continental Congress realized that Virginia, the largest of the 13 American colonies and Washington's home, deserved a leadership role in the revolution and that the New England colonies needed to ensure the support of the southern colonies. For those reasons, in June they appointed him to serve as commander in chief of American forces.

Future U.S. President and Continental Congress delegate John Adams praised Washington's "great experience in military matters." He would be of much service to the cause, Adams said.

Since then Washington had managed in early 1776 to force the British to evacuate Boston. Following the loss of New York City to Howe in the late summer of the same year, Washington had led his troops southward into New Jersey where he was outmaneuvered by larger



BY CHUCK LYONS

ALTHOUGH IT SUFFERED A STINGING DEFEAT AT BRANDYWINE IN SEPTEMBER 1777, GEORGE WASHINGTON'S CONTINENTAL ARMY MADE AN AUDACIOUS ATTACK THE FOLLOWING MONTH.

The Granger Collection, NY

British forces commanded by more experienced officers. His desperate gamble crossing the Delaware River on Christmas night to launch a successful surprise attack on the Hessian garrison at Trenton, combined with his victory at Princeton on January 3, 1777, restored his reputation and that of his men. Nevertheless, he had his share of critics. For example, Maj. Gen. Charles Lee said that Washington was "not fit enough to command a Sergeant's Guard."

By the spring of 1777 the revolution in the American Colonies had settled into an uneasy stalemate with Washington and Howe each blocking the other from gaining any distinct advantage. "Washington is certainly a most surprising man, one of Nature's geniuses, a Heaven-born general, if there is any of that sort ... to keep a British general at bay, nay, even oblige him, with as fine an army of veteran soldiers as ever England had on the American continent, it is astonishing" wrote Nicholas Cresswell, a loyal British subject who had travelled in the American colonies before the Revolution and had visited Washington at his Mount Vernon home. "Washington, my enemy as he is, I should be sorry if he should be brought to an ignominious death."

To break that impasse, in early 1777 Howe, commander of British troops in the American colonies, proposed several possible actions to Lord George Germain, Secretary of State for America, who was responsible for the conduct of the war. One of those proposed actions was an offensive against Philadelphia, the seat of the Second Continental Congress. Lord Germain approved Howe's plan for the move against Philadelphia, although with fewer troops than Howe had originally requested. At about the same time, Lord Germain also approved a plan by General John Burgoyne for an offensive south from Montreal that, if successful, would open the Hudson River to the British and would sever New England from the rest of the rebellious colonies. It is worth noting that Howe also had suggested opening the Hudson, but by an offensive launched from New York City. In approving Burgoyne's proposal, Lord Germaine's expectation was that, if needed, Howe would assist Burgoyne by sending troops north from New York City.

In the spring of 1777, Washington moved his army from its winter quarters at Morristown, New Jersey, to a fortified position in the Watchung Mountains of northern New Jersey. Around the same time, Howe began a series of unexplained maneuvers that may have been intended to draw Washington out of the mountains and onto terrain more favorable for a general engagement.

Library of Congress

ABOVE: American ally Marquis de Lafayette was wounded badly in the leg but nevertheless tried to rally the faltering American troops. OPPOSITE: Continental troops hold their ground against a British attack at Brandywine. Their discipline prompted British Lt. Gen. Charles Cornwallis to remark, "The damn rebels form well."

If that was the purpose of Howe's maneuvering, it failed. Washington would not be drawn out of his mountain stronghold. In July the British began loading troops into ships commanded by Howe's brother, Admiral Richard Howe, in New York harbor while Washington tried to decipher Howe's intentions. That same month, Washington also learned that Fort Ticonderoga between Lake Champlain and Lake George had fallen to Burgoyne's troops as they advanced south from Canada. The surrender of Ticonderoga sparked an outcry from the American public, which had been led to believe the fort was impregnable. Maj. Gen. Arthur St. Clair, commander of the fort, and his superior, Maj. Gen. Philip Schuyler, commander of the Northern Department, each faced a court martial over the fort's loss but both were eventually exonerated.

On July 24, Washington heard that Howe was sailing south and became convinced that his destination was Philadelphia. Washington marched south himself and stopped near Germantown just north of the city where he waited for Howe to commit himself. It eventually became apparent to Washington, however, that Howe intended to land his forces at the head of Chesapeake Bay, 55 miles south of Philadelphia, and march north. What became known as Howe's Philadelphia Campaign had begun.

On August 24, Washington with Lafayette at his side led the army through the city of Philadelphia. His army was "twelve deep and yet [taking] above two hours in passing by," Adams wrote. "We have now an army well appointed between us and Mr. Howe, [and] I feel as secure as if I were at Braintree [Massachusetts], but not so happy."

The next day, Washington, again accompanied by Lafayette, scouted to within two miles of Howe's army before returning to Wilmington, Delaware, where the American army was then camped. Then, early on September 9, he arranged his force to meet the advancing Howe on the high ground east of Brandywine Creek. The ground Washington had chosen allowed him to check an advance against any of the principal fords on the creek. The American commander placed a force of 800 light troops under Brig. Gen. William Maxwell west of the creek along Nottingham Road. Washington's center on the east side of the Brandywine was under the command of Maj. Gen. Nathanael Greene. His right wing was under Maj. Gen. John Sullivan, and on the left, where there seemed little possibility of any threat because of the nature of the ground there, he placed 1,000 Pennsylvanians under Maj. Gen. John Armstrong.

The first shots of the battle were fired on the morning of September 11 at Welch's Tavern three or four miles west of Brandywine Creek when a British column ran into an advance party Maxwell had sent forward to probe the enemy. The Americans quickly withdrew back toward the main body of Maxwell's men, who took cover behind a cemetery wall, fired on the advancing British, and then slowly fell back until they reached the creek where they were reinforced by Lt. Col. Charles Porterfield's Virginians. Two heavy British guns and two 3-pounders were brought up and began firing at Maxwell's men. In the meantime, Captain James Wemyss' Queen's Rangers and the 23rd Regiment flanked Maxwell's men, driving them out of the woods and forcing them to fall back across the creek at 10 AM.

British troops and artillery assembled on the creek's west bank, and British and American cannons exchanged fire. "Though the balls and grapeshot were well aimed and fell right among us the cannonade had but little effect partly because the battery was placed too low," said a

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Hessian captain.

While that was going on, British and Hessian troops formed a line on the high ground west of the creek and heading down the slope onto the low ground near the water. British officers straightened their battle line, but the firing slacked off.

Meanwhile, Howe and Lt. Gen. Charles Cornwallis had swung left with two battalions of grenadiers, two squads of light dragoons, guards, dismounted dragoons, and infantry on the Great Valley Road and crossed the creek well north of Washington's position. When Washington became aware of Howe's movement, he and his generals were appalled at what they considered Howe's terrible blunder in dividing his forces and moved to exploit it.

Washington ordered Sullivan, Maj. Gen. William Alexander, and Maj. Gen. Adam Stephen to cross the creek immediately and attack the rear of Howe's column on the Great Valley Road. Meanwhile, Washington and Greene would launch a frontal assault against Lt. Gen. Wilhelm von Knyphausen's Hessians while Armstrong's militia attacked his right flank.

Washington was doing in effect what he blamed Howe for doing, which was dividing his forces. About that time, however, Sullivan sent a dispatch to Washington informing him that there was no enemy column marching to the Americans' right and that information received earlier must have been wrong.

Despite the earlier sightings, Washington and his staff accepted Sullivan's letter as the truth and the attack orders were cancelled. At 2 PM a civilian named Thomas Cheyney, who resided in the area and who supported the rebel cause, rode hurriedly into Sullivan's lines. He had been atop a local hill, he said, and had seen the British not a hundred yards away. They were already across the creek and heading toward the right of the American position, he said. Cheyney was taken to Washington where he sketched a map in the dirt showing the position of the British.

Washington was incredulous and may have feared that Cheyney was a Tory trying to entice him into making a false move. But as he pondered the situation, a courier arrived from Sullivan stating that the enemy was in their rear. They had been spotted on the heights and were estimated to be about two brigades in strength, Sullivan's message said. The earlier sightings had been right.

"In a few minutes the fields were literally covered with [British soldiers]," said a local man who stumbled on the British near the American position. "Their arms and bayonets being raised shone as bright as silver, there being a clear sky and the day exceedingly warm."

After receiving Sullivan's note, Washington immediately ordered the divisions of Sullivan, Stephen, and Alexander to shift to meet the threat. Lafayette also was sent to aid Sullivan in any way he could. The Americans under Sullivan formed up on the slopes of a small hill south of Birmingham Meetinghouse facing the British, who were formed in three divisions on Osborne's Hill. Sullivan's four pieces of artillery were also positioned. "The damn rebels form well," said Cornwallis.

At 4 PM the British marched in formation down the slope of Osborne's Hill and toward the Americans, their bands playing their traditional marching song, "The British Grenadiers." They first made contact with bayonets only on Sullivan's left, where three Maryland regiments broke and fled.

When von Knyphausen heard the cannon fire from Howe's flanking attack, which was said to be so loud it was heard in Philadelphia, it was his signal to attack across the creek, and his guns opened on the American position.

The battle would be on two fronts, but the heart of the fighting had by now developed on the right near the Birmingham Meeting House where 6,000 British troops were moving on Sullivan's American troops.

"There was a most infernal fire of cannon and [musketry]," wrote a British captain. "Most incessant shouting.... The balls plowing up the ground. The trees cracking over one's head [and] the branches riven by artillery."

Washington quickly sent Greene with the reserve to back up Sullivan and hold the road to Philadelphia should a retreat became necessary, and then he rode quickly to the scene of Sullivan's engagement where the Americans were still holding out. Lafayette, who had raced ahead of Washington, was in the thick of things.

For a hundred minutes the fight raged with "cannon balls flying thick and many and small arms roar[ing] like the rolling of a drum." Finally Stephen's division on the American right, where the

The savage night attack by British light infantry on an American camp at Paoli, Pennsylvania, is depicted in a period painting by Xavier Della Gatto. To ensure the element of surprise, British Maj. Gen. Sir Charles Grey instructed his men not to fire their weapons but instead to rely on their bayonets.

fighting had been especially hot, fell back and a general withdrawal was signaled. The retreating Americans ran into Greene column, which let them pass and then stood against the pursuing British before falling back. Greene's men made another stand at Sandy Hollow and after about 45 minutes of heavy fighting they again began falling back.

During the fighting there Lafayette was shot in the leg but, ignoring the wound, he tried to rally the faltering troops and organize a more orderly pullback before having his wound treated. Meanwhile, at Chadds Ford von Knyphausen had launched his attack. "The [American] battery played upon us with grapeshot, which did much execution," wrote a British ranger. "The water took us up to our breasts and was stained with blood."

The British were able, nonetheless, to break through the divisions in the American center commanded by Brig. Gen. Anthony Wayne and Maxwell, forcing them to abandon most of their cannons and retreat. About the same time, Armstrong's militia on the American left, which had never been engaged in the fighting, also abandoned their positions.

As darkness fell, the British attack came to a halt. The Americans were fleeing in an unorganized mob, all distinction of division, brigade, and company lost. They thronged the road heading toward Chester until after about 12 miles they reached a bridge over Chester Creek. There Lafayette, his wound still untreated and wearing an improvised bandage, had posted a guard to stop the stumbling mob and try to restore some order to the retreat. Washington and Greene soon arrived at the bridge, and the American army encamped with some order restored. It was then about midnight.

On the morning of September 12, Washington marched east from Chester, crossed the Schuylkill River, and camped near Germantown still between the British and Philadelphia, while Howe remained camped at Chadds Ford.

No casualty list for the American army at Brandywine survives and no figures, official or otherwise, were ever released. The nearest thing to a hard figure available from the American side was information given by General Greene, who estimated that Washington's army had lost between 1,200 and 1,300 men. An initial report by a British officer gave similar figures claiming American casualties at more than 200 killed, around 750 wounded, and another 400 or so taken as prisoners. A member of Howe's staff claimed that 400 of the American rebels were buried on the field, and another British officer wrote, "The Enemy had 502 dead in the field." The Americans had also lost one howitzer and 10 field pieces including two brass guns that had been captured during the fighting at Trenton.

Howe's report to Lord Germain said that the Americans "had about 300 men killed, 600 wounded, and near 400 made prisoners," again agreeing more or less with General Greene's estimate. The official report also listed 93 British killed and 488 wounded. Six enlisted men were unaccounted for. Only 40 of Howe's casualties were Hessian mercenaries.

Washington had Lafayette's wound treated by his own doctor and had the Frenchman transported by boat to Bristol, Pennsylvania, where he was visited by Henry Laurens, president of the Continental Congress, who personally escorted him to the hospital run by the Moravian Brothers in Bethlehem, Pennsylvania. Lafayette, who had turned 20 on September 6, was to remain there recuperating for two months.

When Howe was informed that Washington's weakened American force was less than 10 miles away, he decided to press for another decisive victory. Likewise, Washington learned of Howe's plans and began preparing for battle. The two armies squared off again on September 16 near the current site of Malvern, Pennsylvania, but before they could engage each other a torrential downpour let loose. With tens of thousands of the Americans' cartridges ruined by the rain—and with his troops already outnumbered—Washington again retreated, leaving 1,500 men and four field pieces under the command of Wayne behind to monitor and harass the British as they prepared to move on Philadelphia. Howe, bogged down in the rain and mud, allowed Washington's withdrawal. The affair has come to be known as the Battle of the Clouds.

On the evening of September 20, a more serious engagement occurred. About midnight, three British battalions under the command of Maj. Gen. Sir Charles Grey led a surprise attack on Wayne's encampment near the Paoli Tavern. To ensure surprise, Grey had told his men not to fire their weapons but to rely on their bayonets. The British attack killed 50 of the Americans and took another 100 prisoner and was followed by claims, which were probably exaggerated, that the British had taken no prisoners and had granted no quarter. Wayne was able to extricate the rest of his men, however, and retired to join Washington's main body.

The two armies maneuvered and countermaneuvered until late in the month when Howe drew Washington north with a feint against the

American supplies stored at Reading Furnace, crossed the Schuykill River, and by September 26 was in Philadelphia. By then, however, the Continental Congress had already fled, moving piecemeal first to Lancaster, Pennsylvania, and then to York.

A year earlier, Washington had said the loss of Philadelphia "must prove of the most fatal consequences to the cause of America." The city had now fallen, but in the year since Washington's statement its value had lessened greatly. Congress and its records as well as most of the military supplies in the city had been safely removed. In addition, the city was 60 miles up the Delaware River from the ocean, and with the Americans controlling the river, Howe would have considerable trouble continuing to supply his troops.

Concerned about the American control of the Delaware River and the supply problems that could cause him in Philadelphia, Howe stationed 3,000 of his best men in the city, another 3,000 across the Delaware River in New Jersey, and the remaining 9,000 men at Germantown to the west. When he received word of Howe's division of the British army, Washington determined to attack the weakened British camp at Germantown and devised a plan that called for his force to advance in four columns along separate roads and then attack the British camp simultaneously.

Finally, in the evening of October 3, when Washington learned from two intercepted letters that Howe had dispatched a sizable detachment numbering approximately 3,000 men from Germantown to bring up supplies, he marched. Sullivan commanded the center-right column with Brig. Gen. Thomas Conway's brigade on his right and Wayne's brigade to the left. Greene commanded the center-left column. These two columns as well as Alexander's reserve were made up of American regulars. The left and right columns were composed of militia commanded by Brig. Gens. William Smallwood and John Armstrong.

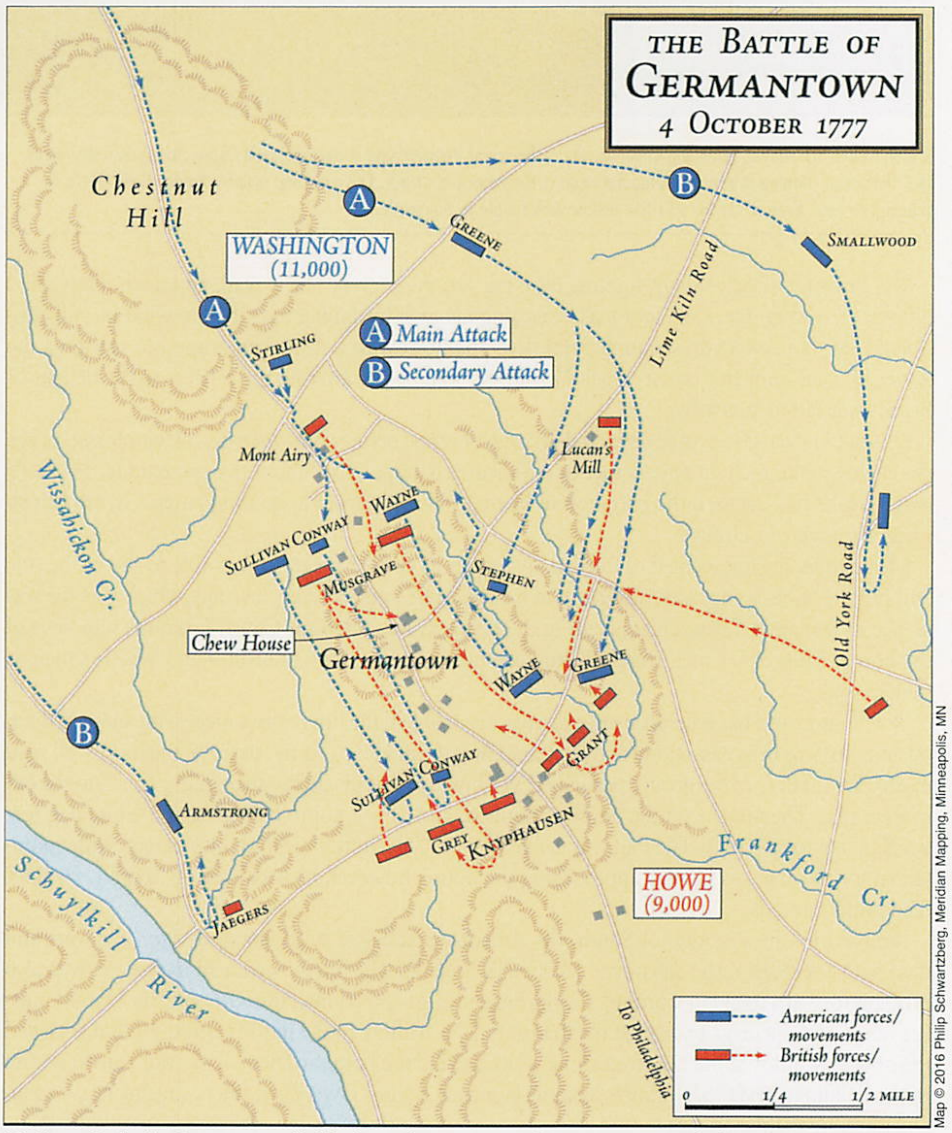
Washington's plan basically called for a pincer movement in which the British main force would be smashed by Greene and Sullivan with Armstrong and Smallwood closing in on Howe's right and left wings. It was a classic plan, one that Hannibal had used against Rome, but there were problems. Hannibal had put his strongest force on the wings while Washington concentrated his in the center, and even these men were largely recruits led by inexperienced officers and poorly trained militia. In addition, the plan called for the four American columns to approach in concert over four roads that were separated by up to seven miles of rough country without any communication among them,

The four columns were to charge with fixed bayonets at precisely 5 AM, but the plan had made no provision for the stout wooden fences throughout the village, which would greatly hinder any proposed bayonet charge. Meanwhile, Howe had established his camp on high ground along Schoolhouse and Church Lanes at the southeast edge of the village. The western wing of the camp was under the command of the Hessian general von Knyphausen.

At 5 AM on October 4, 1777, the vanguard of Sullivan's column, commanded by Wayne, who was hungry to revenge the Paoli Tavern attack, launched the battle by opening fire on the British pickets stationed near Mount Airy just northwest of Germantown. Captain Allen McLane's Delaware light horse scattered the British pickets, but they succeeded in firing off two cannons before fleeing. Those two cannon shots served to alert the rest of the British of the Americans' attack.

Howe's 2nd Light Infantry, joined by Colonel Thomas Musgrave's 40th Regiment, hurried to the scene and engaged the advancing Americans. Together they stopped the American advance, but Wayne rallied his men and led them in a bayonet charge that drove the British back. The British in turn rallied and counterattacked the Americans. The fighting seesawed until a British bugle signaled a retreat.

"We charged them twice till the battalion was so reduced by killed and wounded that the bugle was sounded to retreat," wrote a British officer. "This was the first time we had retreated from the Americans, and it was with great difficulty we could get our men to obey our orders."



Washington's plan for Germantown called for four columns to approach in concert over roads that were separated by up to seven miles of rough country without any communication among them. A number of human and terrain factors disrupted the plan.

British troops are shown defending Cliveden, the residence of Pennsylvania judge Benjamin Chew. British infantry occupied the house, turning it into a strongpoint against the American attack. This painting, also by Xavier Della Gatto, is believed to have been made for a British officer who fought in the battle.

The British fell back slowly, fighting delaying actions at every fence, wall, and ditch. Howe had himself arrived on the scene and was chastising his men for falling back before what he still considered only an American scouting party. Eventually, however, American grapeshot scattered the leaves of a chestnut tree under which Howe was standing, scattering the officers to the delight of British enlisted men nearby.

"I think I never saw people enjoy a discharge of grape before, but we really all felt pleased to see the enemy make such an appearance and to hear the grape rattle about the commander-in-chief's ears after he had accused the battalion of having run away from a scouting party," wrote British Lieutenant Martin Hunter.

Meanwhile, the fog seemed to thicken and under its cover Musgrove was able to slip to the side and put six of his companies, 120 men, in a large stone house called Cliveden, which was the residence of Benjamin Chew, chief justice of the Pennsylvania Supreme Court. From the windows of the house, Musgrove's men were able to keep up a steady fire on Sullivan's and Wayne's men as they passed.

Washington and his generals met to discuss the problem the house presented, with some of them pushing to simply bypass it, but artillery chief Brig. Gen. Henry Knox, perhaps the most well read in military matters of the group, persuaded Washington that an enemy stronghold could not be left in their rear. The attacks on the house continued, and at one point Sullivan sent a white flag forward to ask for a parley. The flag was carried by Lt. Col. Matthew Smith of Virginia, who volunteered for the task. As he was approaching the house, however, he was fired on and hit. He later died of his wounds.

Incensed by the shooting of Smith, the Americans attacked with renewed vigor but were still unable to overwhelm the defenders. Maxwell's brigade, which had been held in reserve, was also brought forward to aid in storming the house, and Knox positioned four 3-pounders beyond musket range and opened fire against the mansion. The artillery broke in the front door and smashed the house's windows, but the stout stone walls resisted the bombardment. Two attempts to set fire to the building also failed. Infantry assaults launched against it were cut down, causing heavy casualties among the Americans.

Major General Stephen, commanding a Virginia division under Greene, heard the firing coming from the area of the stone house and deviated from plan without orders, swerving his division to march to the scene. There his artillery joined Knox's in bombarding the house with no more success than Knox had had alone. Stephen was said to be drunk at the time and was later cashiered from the army for his actions at Germantown. Greene, who had been late arriving at Germantown, in the interim had attacked the British line with such vehemence that a bayonet attack by some of his men broke through to some tents behind the line and a large number of British prisoners were taken.

As this was occurring, Knox and Maxwell continued to launch futile attacks against the Chew House, and Sullivan's division had pressed past the house in the fog. As Sullivan's the 1st and 2nd Maryland Brigades advanced, they paused frequently to fire volleys into the fog, suppressing the British opposition but causing the Maryland troops to quickly run low on ammunition. Their shouts to one another for ammunition may have alerted the British troops to the situation and heartened them. Wayne's brigade to the left of the road moved ahead and had become separated from Sullivan's line when they also began hearing the firing of Knox's cannons behind them. To their right, the firing from Sullivan's men died down as the Marylanders ran low on ammunition. Fearing they had been cut off and surrounded, Wayne's men began to fall back.

Sullivan was forced back also, although the regiments fought a stubborn rearguard action. As they pulled back, Wayne's division collided with part of Stephen's men in the fog and the two units began firing on each other before Wayne's men retreated.

At about this time a cavalryman arrived at

Sullivan's column, yelling that they had been surrounded. Part of Sullivan's men broke and ran, soon followed by the remainder. The officers were unable to restrain them. The British and Hessians who had been fighting Sullivan let the Americans run and turned their attention on Greene. Exhausted by the march and fighting, Greene and his men were forced to withdraw through the village using whatever hedges, fences, and stone walls they encountered as cover in what had turned into a rearguard action. By that point, the entire American army was in flight, and Washington's attempt to rally the men was to no avail.

Maxwell's brigade, still having failed to capture the Chew House, was also forced to fall back. Part of the British Army rushed forward and routed the retreating Americans, pursuing them for some nine miles before giving up the chase in the face of resistance from Greene's infantry, Wayne's artillery guns, and a detachment of dragoons as well as the coming of darkness. What had looked like an American victory had been turned into a defeat.

"The retreat was extraordinary," wrote Patriot Thomas Paine, who was at the battle as an observer. "Nobody hurried themselves. Everyone marched at his own pace." But he also wondered what had turned the victory into a defeat. "I never could, and cannot now learn, and I believe no man can inform truly the cause of the day's miscarriage," he said.

Of the 11,000 men Washington led into battle, 152 were killed and 521 were wounded. The official casualty report of the battle said that "upwards of 400 were made prisoners," a group that included Colonel George Mathews and the entire 9th Virginia Regiment. Among the dead was Brig. Gen. Francis Nash, whose North Carolina Brigade had covered the American retreat. In all, 53 Americans had been killed in the ineffective attack on the Chew House. British casualties were 71 killed, 448 wounded, and 14 missing.

Lafayette recovered from the wound he had received during the Brandywine Creek fighting and returned to Washington's army in November. After Brandywine, Washington had cited him in a letter to Congress for bravery and military ardor and recommended him for command of a division. When Lafayette returned to the army he was given the disgraced Stephen's division.

As the year wound to an end, Lafayette assisted Greene in scouting British positions in New Jersey and, commanding 300 men, he beat a larger Hessian force at Gloucester, New Jersey, on November 24. After that he joined Washington's army as it settled into winter quarters at its Valley Forge encampment north of Philadelphia. Over the next six months, the deaths in the Valley Forge camp from the harsh winter conditions and disease have been estimated as high as 3,000 men.

By the end of November, the British had overcome the American forts along the Delaware River and opened the waterway, but some good did come of the fights at Brandywine and Germantown, and even from that terrible winter at Valley Forge.

The following spring, Washington's army emerged from Valley Forge in good order and better trained, thanks in part to a full-scale training program supervised by Prussian General Friedrich Wilhelm von Steuben during the winter. And, despite the American defeats at Brandywine and Germantown, international opinion as to the Americans' fitness and the possibility of their toppling the British giant was rising. As Washington was fighting at Brandywine Creek and at Germantown, the Americans won a victory over the British at Saratoga in upstate New York. The Americans were encouraged by the victory at Saratoga and by Washington's solid showing in the Pennsylvania engagements. Importantly, France's attention had been caught. What earned the respect of the French was Washington's switch to the offensive after the setback at Brandywine.

In 1778, France recognized the United States of America as a sovereign nation, signed a military alliance with the Americans, and went to war with Britain as well as providing the Americans with

Alamy

The Patriots failed to capture Cliveden after repeated assault. As the American units withdrew from the grounds of Cliveden, the British launched spoiling attacks against them.

grants, arms, and loans. France also sent a French army to serve under Washington. Importantly, a French fleet in 1781 prevented Cornwallis's British army from evacuating its encampment at Yorktown, Virginia, and the British commander surrendered on October 19.

Representatives of the newly created United States of America and Great Britain signed the final version of the Treaty of Paris, which recognized American independence, on September 3, 1783. Although the British had withdrawn their last troops from the American South in 1782, it was not until November 25, 1783, that the last British troops left New York bound for home.

After the American Revolution, Lafayette returned to France where he served in several governmental positions, commanded the National Guard after the French Revolution, and later refused to serve under Napoleon. He did, however, serve in the French government after Napoleon's fall.

As for Washington, he was unanimously elected first president of the United States in 1789, serving two terms before returning to his home at Mount Vernon in March 1797. Although he lost the Battles of Brandywine and Germantown, his boldness, tenacity, and strategic acumen were on full display during the two battles. □

SMOKE SWIRLED AMID the thunderous noise that roared from powerful Dahlgren guns and Brooke rifles. Thousands of spectators along the shore watched the two most dangerous warships in the world at each other at point-blank range. Lieutenant Catesby ap Roger Jones hoped that his *Virginia* would overcome the *Monitor* and clear the U.S. Navy from Hampton Roads, Virginia.

Jones was startled to see a party of his gunners standing idle. Confronting Lieutenant John R. Eggleston, Jones asked, "Why are you not firing, Mr. Eggleston?"

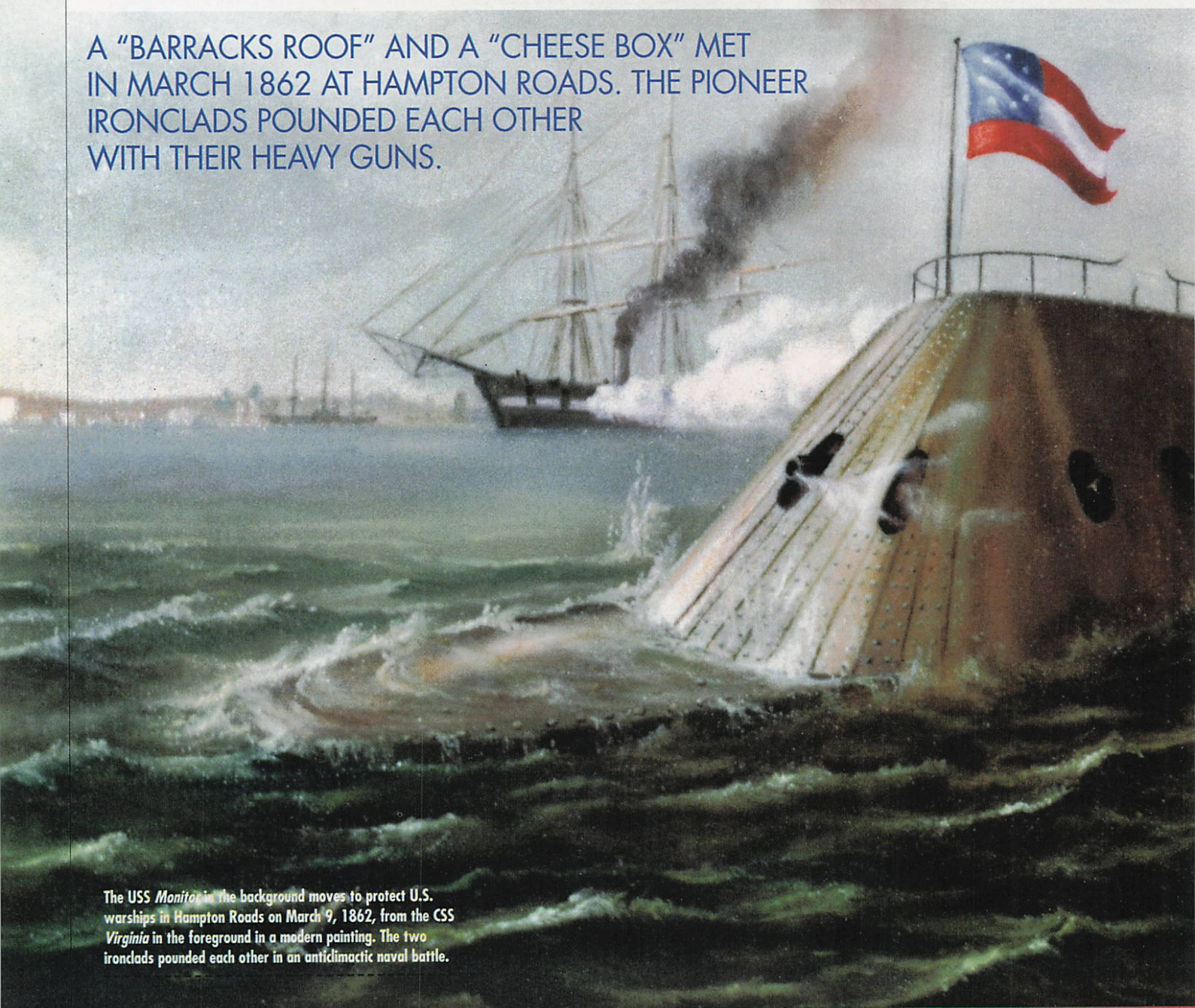
"Why, our powder is very precious, and after two hours' incessant firing I find that I can do her about as much damage by snapping my thumb at her every two minutes and a half," replied the lieutenant.

Eggleston was right. Alone, either ship could have cut a swath through any of the world's navies. Matched against each other, heavy explosive rounds fired by one combatant simply bounced off the sides of the other. Shell after shell burst uselessly in the air. Others splashed into the water, throwing nothing more harmful than a little salt spray through the gun ports.

On March 9, 1862, the Union and Confederate navies fought the first naval action in history between two ironclad vessels, the *Monitor* and the *Virginia*. Both combatants at the Battle of Hampton Roads represented remarkable leaps in naval technology. Less than one year before the battle, no one could have possibly dreamed that these two ships would meet and alter the course of history. The *Virginia* had been a completely different ship in a different navy, and nothing then existed of the *Monitor* other than a batch of design drawings and a pasteboard model.

Secessionist gunners opened fire on Fort Sumter in Charleston, South Carolina, on April 12, 1861. One day after the fort surrendered, U.S. President Abraham Lincoln called for

A "BARRACKS ROOF" AND A "CHEESE BOX" MET IN MARCH 1862 AT HAMPTON ROADS. THE PIONEER IRONCLADS POUNDED EACH OTHER WITH THEIR HEAVY GUNS.



The USS *Monitor* in the background moves to protect U.S. warships in Hampton Roads on March 9, 1862, from the CSS *Virginia* in the foreground in a modern painting. The two ironclads pounded each other in an anticlimactic naval battle.

75,000 volunteers to confront the rebellion, and secessionists moved to seize federal military installations in other Southern states.

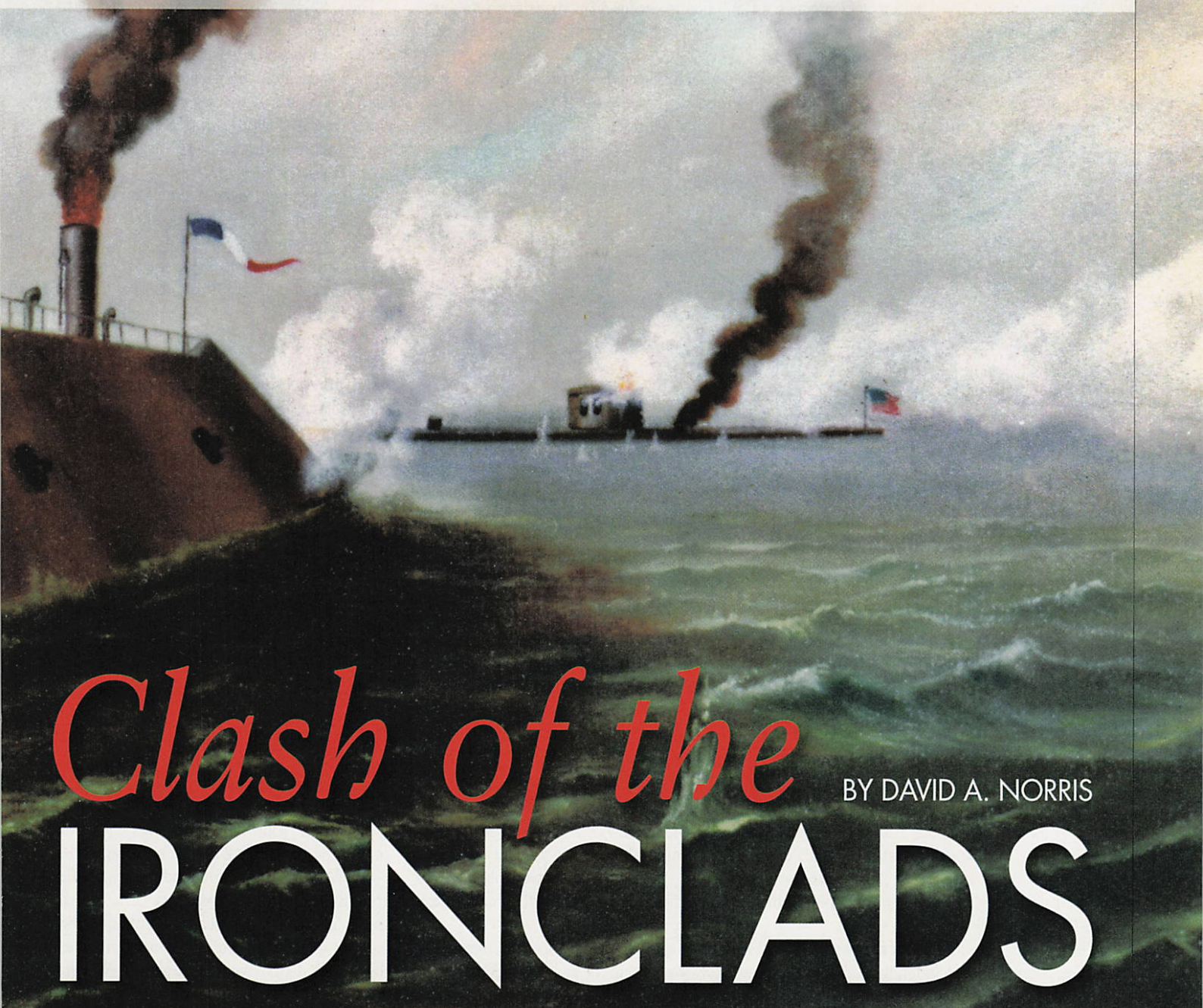
Perhaps the greatest potential prize for the secessionists was the U.S. Navy's Gosport Shipyard, on the western shore of the Elizabeth River in Virginia. Captain Charles Stewart McCauley, a veteran of the War of 1812, commanded the Gosport Shipyard. In early 1861, there were a dozen warships in varying states of readiness or neglect at the yard. U.S. Secretary of the Navy Gideon Welles worried that Virginian secessionists might capture the shipyard. Among the ships at Gosport was the steam frigate *Merrimack*, which was scheduled to have her engines replaced. On April 11, Welles ordered McCauley to get the *Merrimack* ready for sea so a crew could remove her to safety in Philadelphia.

McCauley, though, accomplished nothing. Secessionist sympathizers persuaded him that any action on his part would provoke an attack by Virginian troops. Welles sent Captain Hiram Paulding to replace McCauley and prevent the capture of the vessels at the shipyard.

When Paulding arrived on the evening of April 20, it was too late. Fearing that a secessionist attack was imminent, McCauley ordered his men to scuttle the warships and set the workshops on fire. Paulding retrieved only two ships, the steam sloop of war *Pawnee* and the sailing frigate *Cumberland*.

Virginia troops moved into the Gosport Shipyard on April 21. A vast bounty of war materials fell into Rebel hands. Approximately 1,000 cannons and 2,000 barrels of gunpowder were taken unharmed, not to mention thousands of rounds of shot and shell. Union sailors had scuttled nine naval vessels, ranging from outmoded ships of the line to the modern steam frigate *Merrimack*.

Although the *Merrimack* was burned to the waterline and then sunk, her draft of 24 feet, 3 inches meant that her engines and a great deal of her hull escaped damage. Enough remained for a rebuilding project.



Clash of the IRONCLADS

BY DAVID A. NORRIS

U.S. Navl History and Heritage Command

Confederate Secretary of the Navy Stephen Mallory saw ironclads as a way for his navy to counter the Union's advantages in naval strength and industrial potential. Time was of the essence, and the *Merrimack*'s hull and its engines would give the South a head start in building a new ironclad at the captured navy yard.

For the new ship's design and construction, Mallory consulted with Navy Lieutenants John Mercer Brooke and John L. Porter. Mallory chose a plan proposed by Brooke. Porter supervised the overall construction of the vessel, and Brooke saw to the armor plating and the ship's guns.

Workmen razed the *Merrimack* to the level of her old berth deck and built a new main deck. Atop the deck rose a 170-foot-long casemate. Little of the hull was exposed; ahead and astern of the fortress-like casemate, the main deck was intended to ride about level with the waterline and would be awash when underway.

Two feet of pine and oak planking covered by two two-inch-thick layers of iron protected the casemate. Angled at 35 degrees, the steep pitch of the casemate walls helped deflect enemy shot.

Aboard the *Merrimack* were 10 guns. Two 7-inch Brooke rifles peered from the bow and the stern of the casemate. Two 6.4-inch Brooke rifles and six 9-inch smoothbore Dahlgrens served as the broadside guns.

Another weapon harked back to ancient times: a 1,500-pound, wedge-shaped cast iron ram. Lieutenant John R. Eccleston recalled that the ram "was about two feet under water, and projected about two feet from the stem. It was not well fastened."

Although officially renamed the *Virginia,* the ironclad was still called the *Merrimac* (with the final "k" dropped) by most Northerners and many Southerners.

In action, the *Virginia* would have 320 officers and crew. Most officers were veterans of the antebellum U.S. Navy. Jones would become the *Virginia*'s executive officer.

Library of Congress

ABOVE: Union sailors relax on the flat deck of the *Monitor* after the battle. The damage inflicted by the CSS *Virginia* can be seen in the *Monitor*'s dented turret. OPPOSITE: With the USS *Monitor* still in the Atlantic Ocean, the CSS *Virginia* rammed and sank the USS *Cumberland* off Newport News Point. The Virginia's iron ram plowed deep into the *Cumberland*'s starboard bow.

Stepping into command of the James River defenses and the *Virginia* was Captain Franklin Buchanan, the first superintendent of the U.S. Naval Academy. Experienced officers were easier to come by than skilled sailors. Although a sizable portion of the old navy's officers resigned to join the Confederacy, few enlisted men followed them. In desperation, Lieutenant John Taylor Wood hunted for volunteers from the army camps around Norfolk. About 80 soldiers were obtained for the crew, including a detachment of about 30 men from the Norfolk United Artillery under Captain Thomas Kevill.

The green recruits had about two weeks of drill with naval guns aboard the *Confederate States.* Once the frigate *United States,* the 1790s-era ship was so worn out that the Federals did not bother to scuttle her when they fled from the Gosport Shipyard. Desperate for any type of vessel, the Rebels used her as a receiving ship. There was no time to train with the larger guns aboard the *Virginia,* and the first time the crew fired them, they would be in action.

Word of the mysterious and dangerous new Confederate project under construction at the Gosport Shipyard reached the North. As the Rebels rushed to complete their "iron battery," the Union scrambled to counter this new threat.

A man with a potential answer to the Union's emergency was John Ericsson. The Swedish-born inventor had a long record of innovations. He was one of two inventors who independently introduced the screw propeller in 1836. Ericsson also designed the *Princeton,* the first screw propeller ship in the U.S. Navy.

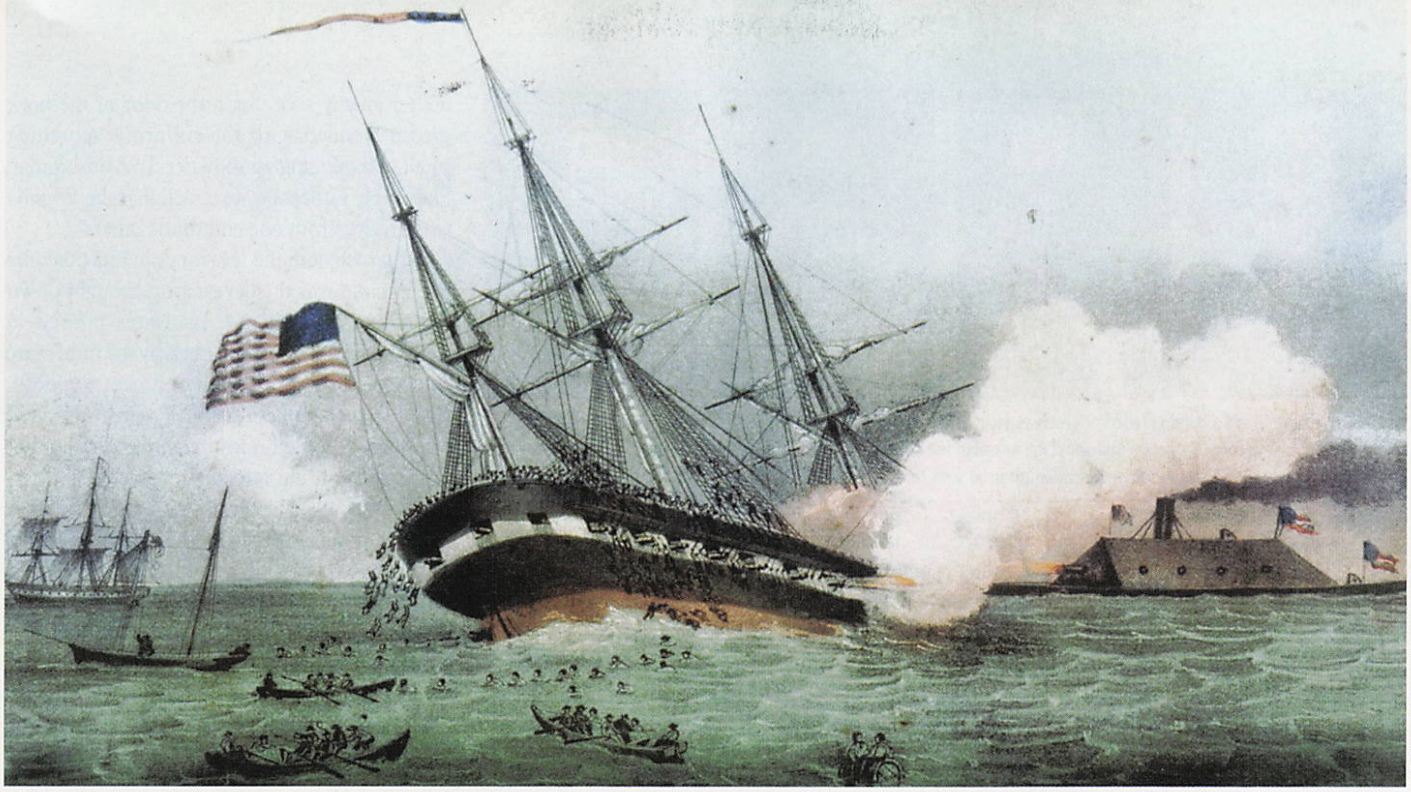
The U.S. Navy issued a call for new ironclad vessel designs, with a deadline of August 15, 1861. Businessman Cornelius Bushnell, who pushed a design of his own, showed Ericsson his plans. While approving of Bushnell's proposed vessel (which became the *Galena*), Ericsson shared a much more visionary plan of his own. Bushnell was so impressed with Ericsson's ideas that he used his considerable influence to help the Swedish inventor get a contract to build what became the *Monitor.*

On October 25, 1861, the keel was laid at the Continental Iron Works at Green Point, New York. Parts of the vessel, including the turret and the engines, were built elsewhere and brought to Green Point for final assembly.

For months called "Ericsson Battery," the craft was an all-iron vessel with a main deck that rose scarcely 18 inches above the waterline, leaving little freeboard for enemy gunners to hit. Besides collapsible smokestacks, little interrupted the flat expanse of the deck other than an armored gun turret and a small pilot house. With a cylindrical turret atop the almost featureless deck, it is little wonder that the ship was called "a cheese box on a raft."

Ericsson's ironclad was 172 feet long and had a beam of 41.5 feet. The broad flat deck overlapped far beyond the hull to protect the engines, rudder, and propeller. Inside the iron turret, which had an interior diameter of 20 feet, were two 11-inch Dahlgren guns. The turret rotated under the power of the ship's engines. Forced-draft ventilators stoked the fires and refreshed the air in the engine room.

Lieutenant John L. Worden was chosen as captain of "Ericsson Battery" on January 16, 1862. Worden would command a much smaller crew than Buchanan. Executive officer Lieutenant Samuel Dana Greene wrote that, including the captain, there were 58 men aboard when the ironclad first went into action. Worden wrote Gideon Welles about the gun turret: "17



U.S. Navl History and Heritage Command

men and 2 officers would be as many as could work there with advantage; a greater number would be in each other's way and cause embarrassment."

Commissioned on February 25, 1862, Ericsson's ship was given the name *Monitor.* When the peculiar-looking craft steamed into the East River two days later, it looked like Ericsson won the sprint to finish his iron vessel before the Rebels commissioned theirs. But the trip was cut short because the steering failed. Then, during an attempt to steam to the South, stormy weather in the Atlantic threatened to swamp the *Monitor,* and she again returned to port.

At Gosport, the South's long-awaited ironclad was commissioned on February 17, 1862. She was 275 feet long and drew 22 feet when loaded. Artisans rushed to complete the final stages of construction. A lack of gunpowder kept the vessel out of action. Scraping up supplies of powder took several days, then there was a further wait while the gunpowder was measured out for cartridges.

Although reconditioned as much as possible, the *Virginia*'s second-hand engines were just barely adequate; they could manage just six knots. Turning the unwieldy vessel around took half an hour.

The North was desperate to get the *Monitor* to Hampton Roads before the Rebels' ironclad could ravage the Union's vulnerable wooden warships. On March 6, the *Monitor* left New York again. Far at sea by the next day, the iron vessel struggled to stay afloat. Water rolled over the deck, surging into the pilot house and knocking down the helmsman. There were a host of other problems as well. The most technologically advanced warship in the world was in peril of sinking before getting a chance to fire a single shot.

But the hands held to their work all night. By the next morning, the weather moderated and the exhausted crew headed for Hampton Roads. Whatever the outcome of the upcoming clash with the Rebels, it was clear that the *Monitor* would never be fit for long-term duty at sea.

On March 8, with the *Monitor* still out in the Atlantic, the *Virginia* was ready for action. She left the Gosport yard and headed for Hampton Roads, a wide estuary where the James, Nansemond, and Elizabeth Rivers unite and empty into the Chesapeake Bay. Guarding the entrance by the Chesapeake stood Union-held Fortress Monroe and the Rip Raps, an artificial island occupied by the Union's Fort Wool.

The main channel ran between the Confederate-held southern shore and the Union-occupied northern shore. A shallow called the Middle Shoal split the passage into the North Channel and the South Channel. Confederate land batteries kept the Union ships toward the northern fringes of the deep channel.

In Hampton Roads was a Union naval force headed by the screw frigates *Roanoke* and *Minnesota* and three sailing frigates, the *Cumberland, Congress,* and *St. Lawrence.* With them were numerous other craft, including a hospital boat, three colliers, five tugs, and a dozen small gunboats.

The *Virginia* steamed out of the Elizabeth River, keeping to a narrow channel between a projecting headland on the right and the shallow stretch of the Craney Island Flats to the left. In support of the *Virginia* were the gunboats *Raleigh* and *Beaufort.* At 1 PM, the *Virginia* cleared Sewall's Point.

Later in the day, three vessels of the James River Squadron would join the Rebel force: the converted sidewheel passenger steamers *Jamestown* (officially named the *Thomas Jefferson*) and *Patrick Henry* and the tugboat *Teaser.* The *Patrick Henry* carried 10 guns, but the others had no more than one or two guns apiece.

Past Sewell's Point, the ironclad made a slow turn to port. This turn brought her south of the Middle Shoal. The Confederates drew nearer to the sailing vessels *Cumberland* and *Congress* off Newport News Point. The day was calm, and Wood remembered the pair of Union frigates "swinging lazily by their anchors." Their crews seemed to have no idea of the catastrophe that loomed. Wood saw "boats hanging in the lower booms, washed clothes in the rigging." Upon seeing the *Virginia,* the idyllic mood aboard the sailing ships vanished and their crews rushed to their battle stations.

Aboard the five Union frigates were a total of 200 guns. Had they been able to maneuver together to concentrate their fire on the *Virginia,* the wooden frigates might have stood a chance of inflicting critical damage. But on that day there was so little wind that the sailing vessels relied on tugboats to move. The *St. Lawrence* was too far away to lend support. As for the steamers, the *Roanoke*'s main shaft had been awaiting repair for months. There was nothing the *Roanoke* could do except make a show of releasing angry clouds of steam. A shot from a Rebel battery at Sewall's Point hit

All: Library of Congress

Pictured left to right are Captain Franklin Buchanan, Lieutenant Catesby ap Roger Jones, Lieutenant John Worden, and Lieutenant Samuel Greene. Buchanan and Jones commanded the Confederate ironclad on the first and second days of the battle, respectively, and Greene replaced Worden after he was temporarily blinded while commanding the Union ironclad.

the *Minnesota*'s mainmast, and the steamer soon ran aground about a mile east of Newport News Point. This chain of setbacks left the two sailing frigates to face the oncoming *Virginia* alone.

Buchanan wrote that "the *Virginia* commenced the engagement" by firing her bow gun at the *Congress*. Two dozen 32-pounders aboard the *Congress* answered with a broadside. Close to 800 pounds of metal flew across the water. But any shots that hit their mark simply clanged against t the *Virginia*'s armor and bounced off. The armor plating seemed invincible, but Chief Engineer H. Ashton Ramsey recalled the officers still continually warned the gunners, "Keep away from the side ports, don't lean against the shield, look out for the sharpshooters."

Passing the *Congress,* the *Virginia* built as much speed as possible and made straight for the *Cumberland*. Captain William Radford of the *Cumberland* was not aboard his ship. That morning, Radford was on the *Roanoke,* serving on a court of inquiry. Seeing his ship in peril, Radford went ashore, obtained a horse, and rushed toward Newport News. There was no time for Radford to reach his ship, and executive officer Lieutenant George U. Morris was in command as the Rebel ironclad neared.

Wood recalled that the *Cumberland* opened fire with her pivot guns, and then the *Congress* and the enemy shore batteries joined in. Aboard the *Virginia,* Lieutenant Charles Simms aimed the forward Brooke rifle. When Simms fired, the shot wiped out most of the *Cumberland*'s aft pivot gun crew.

About 15 minutes after the firing began, the *Virginia* closed in on the *Cumberland*. Ramsey heard the orders communicated to the engine room. "Two gongs, the signal to stop, were quickly followed by three, the signal to reverse." There was a brief interval while the ship sliced through the last few yards of open water. Then, the ironclad snapped through a futile barrier of spars set afloat to fend off nautical mines. Approaching at a right angle to the enemy vessel, the iron ram of the *Virginia* plowed deep into the *Cumberland*'s starboard bow, just ahead of the fore chains. Heavy hull timbers and planking gave way as if they were sticks.

Aboard the *Virginia,* Lieutenant Jones remembered that he felt little of the impact, but, "The noise of the crashing timbers was distinctly heard above the din of battle."

Down in the engine room, the impact felt heavier. Ramsey recalled it as a "crash, shaking us all off our feet." The engines "labored," and "we seemed to be bearing down with a weight on our prow," he wrote. Indeed, the iron prow was locked inside the crushed hull timbers of the *Cumberland*. As the stricken ship settled into the water, she threatened to pull the *Virginia* under as well. Lieutenant William Harwar Parker of the *Beaufort* observed that the bow of the Confederate vessel "sunk several feet." Reversing the engines, the Rebels managed to back away. Unknown to Buchanan and his officers, the ram broke off and stayed embedded in the doomed *Cumberland*.

A few shots from the *Cumberland* struck home. A Yankee shell exploded near a port by the forward 7-inch Brooke rifle, hitting several men with fragments. About half of Kevill's detachment manned one of the broadside guns, a 9-inch Dahlgren. Two of the captain's gunners were wounded by musket balls. Just after the crew loaded another round, a shot hit their Dahlgren, simultaneously firing the gun while knocking off its muzzle. Despite the damage, Kevill's gunners kept on firing the gun for the rest of the battle.

Another Yankee shot struck one of the 6.4-inch Brooke rifles and broke off the tube at the trunnions. The crew kept on loading and firing this gun as well, even though each discharge set the wood around the gun port on fire.

For a bit of added protection against enemy shot, the armor of the *Virginia* bore a thick coating of pork grease. There was some hope that by making the iron plating slippery, the grease would help deflect enemy shot. Soon the odor of the pork grease blended with the sulfurous scorching smell of exploding gunpowder. To Midshipman H. Beverly Littlepage, it seemed that the *Virginia* was "frying from one end to the other."

Far worse than the few random hits taken by the *Virginia* was the devastation brought down upon the *Cumberland*. As water poured in through the hole smashed open by the ram, more shot tore through the hull and over the deck. Morris' gunners kept up their return fire, and other hands fought a losing battle to pump out the water pouring into their ship. By 3:30 PM, the forward magazine was flooded. For another five minutes, powder from the aft magazine fed the *Cumberland*'s 10-inch gun, the ship's best chance of fighting off the Rebel attack.

About that time, Radford arrived at Newport News. Before he could order a boat, the *Cumberland* keeled sharply to port. Only minutes after the *Virginia*'s ram smashed into the wooden frigate, water washed over the main hatchway of the *Cumberland*. Emptying their guns in a final gesture of defiance, the crew abandoned ship.

Up until March 8, 1862, duels involving a pair of warships had often taken hours of maneuvering and firing. At Hampton Roads, it took perhaps one quarter of an hour to end the centuries-long age of the wooden warship. After a fleeting exchange of fire, the *Cumberland* was lost. One third of the crew was dead.

Buchanan was now free to finish off the *Congress*. Reaching the enemy ship required the *Virginia* to steam up the James River for more than a mile while steering to port until the ship made a wide enough arc to turn around. Scraping and dragging in the mud in the bed of the channel, the keel slowed the ironclad and made the turn take even longer. All the while shore batteries exchanged fire with the Rebel vessels.

A shot punctured a boiler on the *Patrick Henry,* killing four of the crew. The steamer was towed out of range until repairs to the boiler enabled the ship to return to action. During this stage of the battle, Confederate fire blew up a steamer at a Union wharf, and the Rebel gunboats sank one schooner and took another as a prize.

When the crew of the *Congress* first saw the *Virginia* steam up the James, the Yankee tars cheered, believing that the ironclad was retreating. Relief quickly gave way to a dreadful reality. Already peppered with rounds from the emboldened enemy gunboats, officers on the *Congress* soon realized that the *Virginia* was coming for them. Lieutenant Joseph B. Smith, the ship's captain, ordered the tug *Zouave* to come alongside and drag the frigate

aground on a sandbar.

Carefully easing toward the shallows protecting the enemy vessel, Buchanan's pilot managed to get within 150 yards of the stern of the *Congress*. The *Virginia* joined the gunboats in raking the stranded frigate. Smith could reply only with two stern guns. It was not long before one gun was dismounted and the other had its muzzle blown off. Grape and shot plowed through the *Congress,* hitting dozens of the crew. Among the officers aboard the ship was Paymaster Thomas McKean Buchanan, brother of the commander of the *Virginia*.

Blood ran down the tilted deck of the *Congress,* spilling over the scuppers "like water on a wash-deck morning" onto the *Zouave,* remembered Acting Master Henry Reaney. Broadsides from the *Virginia* raked the *Congress,* knocking over more of her guns. Aboard the *Zouave,* a Confederate shot smashed its figurehead, "which was a fixture atop our pilot house." The broken statue hurtled through the air and wounded two of the *Zouave*'s gunners.

Lieutenant Smith was killed at about 4:20 PM. Fire broke out as incoming shells slaughtered more sailors. Amid the chaos, Smith was dead for 10 minutes before executive officer Lieutenant Austin Prendergast learned that he was in command of a defenseless and dying ship. Prendergast had no option but to surrender, but the *Zouave* managed to get away.

Buchanan sent the *Beaufort* to take possession of his prize, offload the prisoners, and burn the ship. Prendergast stepped onto the *Beaufort* with Captain William Smith; the latter officer, recently reassigned from command of the *Congress,* was still aboard and serving as a volunteer officer. Prendergast surrendered the ship, although Parker noted that the Union officer handed over an ordinary cutlass rather than his own sword.

Upon hearing Parker's orders from Buchanan, Prendergast pleaded with Parker not to set the *Congress* afire, as 60 wounded men were still aboard. As they talked, wounded sailors were being transferred to the *Beaufort*. The gunboat *Raleigh* joined them, and Parker directed their officers to help removed the wounded Union crewmen.

Then, Union soldiers on shore opened fire on all three vessels. All the men standing on the deck of the *Beaufort,* other than Prendergast and Smith, were killed or wounded. Two officers were killed aboard the *Raleigh,* and some of the wounded Yankee sailors were shot by their own men. Parker was wounded in his left knee. He wrote, "Lieutenant Pendergrast now begged me to hoist the white flag, saying that all his wounded men would be killed. I called his attention to the fact that they were firing on the white flag which was flying at his mainmast."

Buchanan's temper flared at what he saw as a treacherous violation of the rules of war, and he ordered the heating of some 9-inch solid shot. When the *Beaufort* and *Raleigh* moved away, the *Virginia* opened fire again with red-hot shot. Smashing into the *Congress,* the rounds set fire to the wreckage and flames soon ate away at wood and cordage.

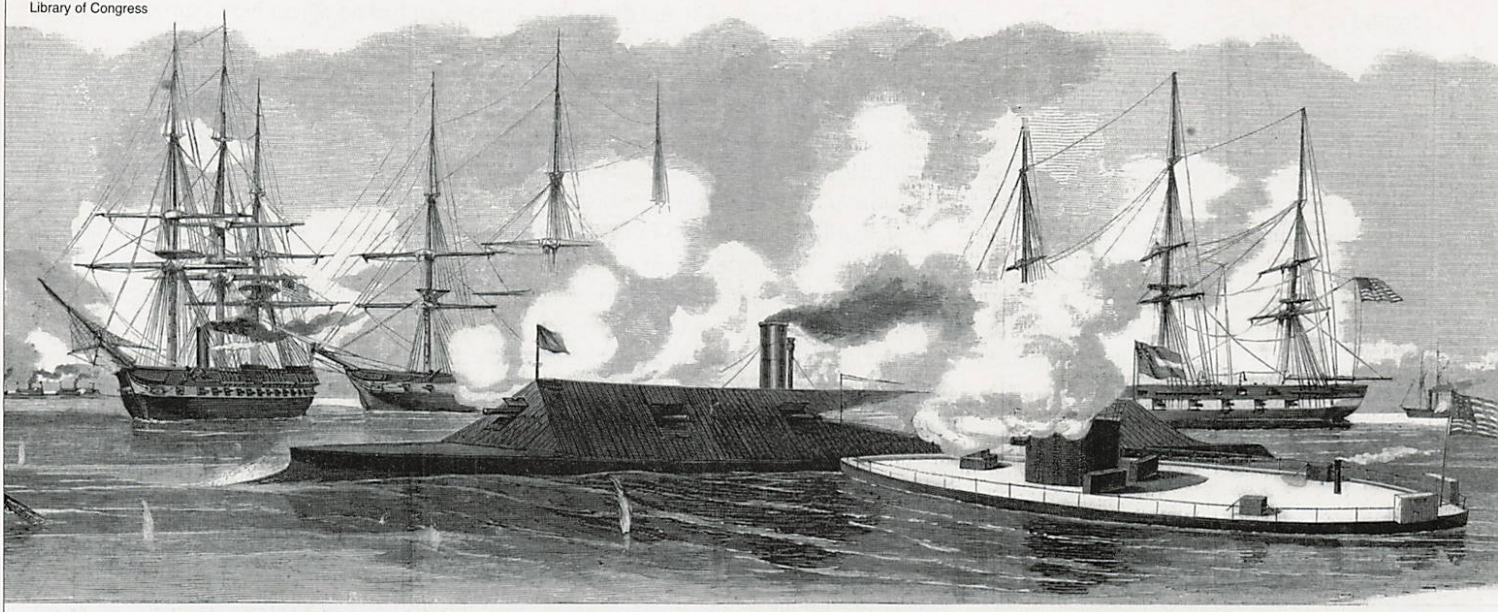
Buchanan climbed up to the casemate's roof, or spar deck. He vented his outrage by taking up a musket and firing at the Yankees on the shore. While on the spar deck, a musket ball fired from shore struck the captain in the leg, severing a femoral artery. Carried below, Buchanan turned over command to Jones.

Jones tried to close in on the *Minnesota*. The ironclad's deep keel kept the vessel from getting closer than about one mile from the stranded frigate. Only one shot from the *Virginia* struck the enemy vessel. The *Jamestown* and *Patrick Henry* edged in closer and hit the *Minnesota* several times

Library of Congress

Two days of action at Hampton Roads are condensed in this period lithograph. At left Union troops rescue sailors from the USS *Cumberland,* and at right the two ironclads trade shots at close range.

Library of Congress



Following the inconclusive battle at Hampton Roads shown in this *Harper's Weekly* illustration, the USS *Virginia* returned to port. The Confederates scuttled the *Virginia* on May 12, 1862, rather than risk her capture by Union forces.

before they were driven off by the Union vessel's larger guns.

As dusk approached, Jones broke off the action and returned to Gosport, deciding to wait until the next day before mopping up the rest of the Hampton Roads flotilla. In the darkness, the wreck of the *Congress* continued to burn.

March 8, 1862, was one of the most disastrous days in the history of the U.S. Navy. Nearly 300 officers and men were killed. Two frigates were destroyed, and only shallow water and the onset of nightfall prevented the destruction of three more capital ships.

In contrast to the catastrophe that struck the U.S. Navy, the *Virginia*'s loss was only two dead and eight wounded. Some minor damage was evident. Besides the two broken gun muzzles, Jones reported that the armor was damaged slightly, and the "anchors and all flagstaffs shot away and the smokestack and steam pipe were riddled." The damage to the ram was not fully realized that evening; Jones wrote that "the prow was twisted" but seemed unaware that it was actually broken off and lost in the *Cumberland*'s hull.

Meanwhile, help was near for the dispirited U.S. Navy. At 4 PM, as the battle was at its height, the *Monitor* passed Cape Henry. Echoes of cannon fire carried 20 miles to reach Worden and his crew. A few hours later, as bright flames flared from the *Congress* into the night sky, the *Monitor* steamed into Hampton Roads.

Lieutenant Greene took the *Monitor*'s cutter and visited the *Minnesota*. The sailors took comfort at the arrival of the "iron battery," which they hoped would shield them when the *Virginia* came back. Just as Greene returned to his ship, the *Congress* exploded "not instantaneously, but successively; her powder tanks seemed to explode, each shower of sparks rivaling the other in its height." He continued, "Certainly a grander sight was never seen, but it went straight to the marrow of our bones."

Sailors worked all night to get the *Minnesota* afloat again, but not even steam tugs and a rising tide could budge the frigate. "The tremendous firing of the broadside guns," wrote Captain Van Brunt, "had crowded me farther upon the mud bank, into which the ship seemed to have made herself a cradle."

Battle resumed on Sunday, March 9. At 6 AM, the *Virginia* came out of the Elizabeth River, followed by three gunboats. At first, the Confederates steamed past the *Minnesota* at a comfortable distance and headed toward Fortress Monroe. Van Brunt dismissed the hands so that they could eat, but breakfast was cut short as the *Virginia* turned around. When the Rebel ship closed to within one mile, the *Minnesota* fired her stern guns and signaled to the *Monitor*.

One shot from the *Virginia* punched through several compartments aboard the *Minnesota* before exploding and setting a fire. Laboring to free the *Minnesota*, the tug *Dragon* took a fatal hit when a Confederate round exploded her boiler.

Worden quickly steered toward the *Virginia*, intending to fight the Rebel ironclad as far away from the *Minnesota* as possible. For the first time, two ironclad naval vessels turned their fire against each other. From the *Minnesota*, Van Brunt observed that even the heaviest shot and shell affected the ironclads no more than "so many pebble stones thrown by a child."

The *Virginia* was even slower than she was on March 8. Shot holes punched through her smokestack the day before reduced the draft needed to feed the engine fires and raise steam. Although the top speed of the *Monitor* was only about seven knots, she could make a turn in about five minutes as opposed to the half an hour required by the *Virginia*. Drawing half as much water as the larger Confederate ironclad, she could maneuver over sandbars or shallows that would trap the *Virginia*. Rather than having to constantly maneuver into new firing positions, the *Monitor* could simply stay in one spot and rotate her turret.

This is not to say that everything worked perfectly aboard the *Monitor*. The Yankee ironclad's turret could swing in any direction but could not fire straight ahead without risking serious injury to the occupants of the pilot house. Early in the battle, the speaking tube linking the pilot house with the turret was knocked out, requiring officers to send messengers running back and forth.

There had been little time for the crew to get used to operating the turret and aiming the guns. Looking through the ports, gunners could see only a tiny sliver of the outside world over the barrels of the massive cannons. Before the battle, reference marks were made to aid the gunners in lining up shots at particular bearings, but the bustle of action soon wore away the marks.

Placing the turret in motion was tricky, but stopping at a precise point was proving impossi-

ble. The gunners quickly learned how to estimate the moment when the gun would bear on its target, and fire while the turret was still in motion.

Two days of combat operations had consumed tons of coal and ammunition aboard the *Virginia*. This did not solve the problem of her excessive draft, but instead nearly doomed the ship. Lightening her coal bunkers did not keep the *Virginia* from suddenly running onto a sandbar. There had been no time to extend the armor far enough below the waterline to protect the wooden hull. Now, a band of wood planking was exposed to enemy fire. And, the rudder and propeller were now potential targets as well.

As Ramsey put it, the *Virginia* was "no longer an ironclad." Without a fast escape from the sandbar, the Confederate ship would meet a similar fate to the two frigates she destroyed the day before. In the engine room, the safety valves were lashed down. The crew "piled on oiled cotton waste, splints of wood, anything that would burn faster than coal," wrote Ramsey. Steam pressure rose to frightening levels. The propeller spun wildly, but the keel stayed stuck fast. At last, the engine crew felt a slight movement, and the massive ironclad slowly slipped into deeper water.

Mutual pounding with heavy guns proved only that neither ironclad could shatter the other's armor. Jones thought ramming the *Monitor* might do the trick, and he "determined to run into her."

Before the *Virginia* could reach the *Monitor,* the Union ship moved nimbly out of the way and received only a glancing blow. The *Virginia*'s attempt at ramming "left no mark on the iron except some splinters from her timbers, which are sticking to a nut and screw on her hull," wrote a *New York Times* correspondent.

Lieutenant Greene remembered that one of the Dahlgrens fired a 180-pound solid round that struck the enemy's casemate. According to their instructions, the gunners used only a 15-pound powder charge. Greene believed that a 30-pound charge, fired at such close range, could have punctured the Confederates' armor.

No shots from either ship broke through the other's armor. Just the same, the iron did not provide complete protection. A Confederate shell landed on the turret armor of the *Monitor.* Although not piercing the iron, the force of the impact knocked down three officers who were either touching the turret's inner wall or standing close by. One officer was unfazed, but the other two were temporarily knocked unconscious.

Both ships received hits that left large dents in the armor. On the *Monitor,* bolts held on the armor plating. Each bolt was secured on the inside by a nut, which a shell impact could knock loose and send flying like a bit of shrapnel. A similar hit on the *Virginia* would crack the wooden backing behind the armor. The flying iron and wooden splinters caused no major injuries, but would remain a concern aboard later American Civil War ironclads.

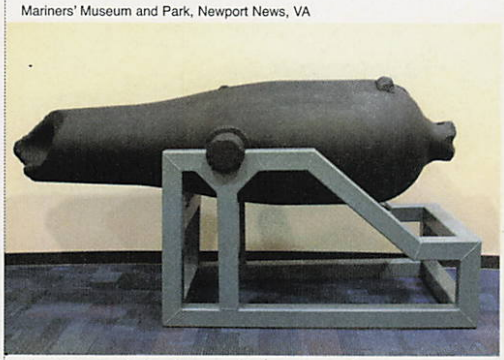
Ramming would not sink the *Monitor,* and firing at the turret was futile. There was nothing else on Ericsson's "raft" to aim for except the pilot house. This proved a more vulnerable target. About noon, a Confederate shell exploded just in front of the viewing hole in the pilot house. The blast cracked and bent a protective iron "log" that sheltered the viewing port and partly blew off the roof.

Temporarily blinded by the flash of gunpowder, Captain Worden could barely sense that light was flooding in through the damaged roof. Believing that the pilot house was wrecked, Worden ordered the helm put to starboard. They made for shallow water, where the crew could assess the damage.

Worden, his face covered in blood, was tended by the surgeon. Lieutenant Greene took command. To his relief, Greene found that the pilot house was not too badly damaged. Perhaps 20 minutes after the captain was wounded, Greene was ready to renew the battle. But, he saw that the *Virginia* was steaming back toward the Elizabeth River. It seemed plain enough to everyone aboard the *Monitor* that the "cheese box on a raft" won the battle.

Aboard the *Virginia,* the Confederates took an entirely different view. To them, it appeared that they had inflicted serious damage on the enemy vessel, because the *Monitor* pulled away and retreated into shallow water. Next, the Rebels anticipated the destruction of the *Minnesota.* It was not to be. The pilots warned Jones that the tide was falling, and they risked grounding once again. And, there was minor damage to see to, such as a persistent leak in the prow caused by the loss of the ram and the impact with the *Monitor.* Jones ordered the ship to return to the shipyard. When the *Virginia* passed Craney Island, the crew heard raucous cheers from hundreds of soldiers who congratulated the Confederate tars for their apparent victory.

Mariners' Museum and Park, Newport News, VA



The USS *Cumberland*'s guns shattered a Dahlgren gun mounted on the CSS *Virginia.*

Both sides claimed they won the Battle of Hampton Roads. The *Monitor* was the first to break off the fight and leave the scene of the battle. But the Yankees did return to renew the battle, and they did prevent the *Minnesota* from meeting the fate of the *Cumberland* and the *Congress.*

Casualties were light. No one was killed on either ship, and only five men on the *Monitor,* including Captain Worden, were wounded. Although dueling with wooden ships cost the Confederates almost two dozen casualties on March 8, they lost no men at all to the *Monitor.*

The famous pioneer ironclads never met again in battle. Only one more major action awaited the *Monitor,* a failed May 12 naval attack on Confederate fortifications and batteries at Drewry's Bluff on the James River, downstream from Richmond. Although resistant to the enemy artillery, the *Monitor* was unable to elevate her turret-enclosed guns sufficiently to engage the Confederate batteries.

Neither the *Monitor* nor the *Virginia* would survive 1862. Union forces moved against Norfolk in early May. On the morning of the *Monitor*'s unsuccessful May 12 run on Drewry's Bluff, the Confederates scuttled the *Virginia* rather than risk her capture.

Late in 1862, the *Monitor* was dispatched to Beaufort, North Carolina, to join a Union attack against the Confederate port of Wilmington. On the stormy night of December 30, 1862, Ericsson's historic ironclad was under tow by the *Rhode Island* off North Carolina's Outer Banks. Barely capable of steaming through calm waters, the *Monitor* plunged up and down as waves washed over her deck. Overwhelmed by the storm, the *Monitor* sank at about 1 AM on December 31 with the loss of 16 of her crew.

Afloat for only a few months, the *Virginia* needed only one afternoon to prove that wooden ships had no chance in battle against armored vessels. Ramsey rather poetically noted, "The experience of a thousand years 'of battle and of breeze' was brought to naught. The books of all navies were burned with the *Congress.*" In an instant, all of the world's wooden warships became as outdated as Roman galleys. From that moment on, the future of naval warfare belonged to descendants of the *Monitor* and the *Virginia.* □

BY ERIC NIDEROST

"A BLOODY MIRACLE"

A British soldier on the beach at Dunkirk fires at a German aircraft. Some of the British considered the bombing and strafing by German aircraft little more than a nuisance. ABOVE: British Captain William Tennant was entrusted with rescuing the British army from Dunkirk. FAR RIGHT: Major General Erwin Rommel's Seventh Panzer Division rolls toward the sea during the Battle of France in the spring of 1940. Allied counterattacks failed to stop the German juggernaut.

The evacuation of the BEF from northeastern France by civilian and military vessels during the fall of France in 1940 ensured that the British Army would survive to fight another day.

National Archives

Above & Top: Imperial War Museum

CAPTAIN WILLIAM TENNANT stood on the deck of the *Wolfhound*, grimily observing the progress of a German air raid as his ship approached Dunkirk. The port city in the northeast corner of France, which was not far from the Belgian border, was being brutally pulverized before his eyes. Bombs detonated, sending up fountains of smoke and debris, smashing buildings, and killing and wounding French civilians unlucky enough to be on the scene.

Fires erupted from different parts of the stricken city, merging until the whole port seemed engulfed in flames. But it was the burning oil tanks, hit earlier in the day, that commanded the most attention. Great columns of acrid smoke rose into the sky, the black and choking clouds so thick they obscured the normal blue of a bright spring day. It seemed a funeral pyre of British hopes, mocking their plans to escape the German juggernaut.

Tennant was on a special assignment, a mission that might well decide the outcome of World War II. The British and a portion of their French allies were trapped by superior German forces and faced with annihilation or capture. If they escaped, then the British Army would survive to fight another day. If not, well, Tennant was not going to waste his time on defeatist speculation. He had a job to do, and he meant to do it well. It was May 27, 1940, and Operation Dynamo, the rescue of the British Expeditionary Force, was shifting into high gear.

Tennant officially was senior naval officer ashore, ordered by his superior, Vice Admiral Bertram Ramsay, to supervise the evacuation and coordinate all the elements that were needed to achieve that end. Originally Dunkirk seemed like a perfect embarkation point. There were no less than seven docking basins, five miles of quays, and 115 acres of docks and warehouses. Pouring over maps and other related documents with his staff, one of Tennant's main concerns was turnaround time. The challenge was to figure out how destroyers and other craft could nose into the quays, fill with troops, and depart fast enough for other ships to quickly take their place.

National Archives

Ullstein Bild

TOP: A British soldier moves to the battlefront past refugees headed the other way. BOTTOM: The dejected Allies fought with determination against the advancing Germans, but the Nazis enjoyed substantial advantages. OPPOSITE: The Germans squeezed the Allies into a small pocket during the Battle of France. The British deployed vessels of all sizes to get their troops to the safety of English shores.

But in his mind's eye he could see those plans going up in smoke, just as surely as the hoped-for quays and docks were blazing and sending their own black coils into the heavens. Tennant was accompanied by a dozen officers and 150 ratings. Since *Wolfhound* was an obvious target the shore party was landed and dispersed.

Tennant himself set out for the British command post. What was normally a 10-minute walk was a nightmarish hour-long journey through rubble-filled streets. Downed trolley wires festooned the avenues, burned-out vehicles were everywhere, and corpses of both British soldiers and French civilians sprawled about like bloodied rag dolls. A kind of thick, smoky haze enveloped everyone and everything, reminders of the oil fires that still blazed fiercely.

The Royal Navy officer finally arrived at Bastion 32, an earth-covered bunker that served as British headquarters in Dunkirk. He was greeted by Commander Harold Henderson, the British naval liaison officer, and representatives of the British Army. But there was one question that must have been paramount in his mind: How long would he have to do the job? In other words, how long would it be before the Germans arrived? The answer was swift and discouraging: 24 to 36 hours.

The task before him seemed impossible, but Tennant was a professional who was determined to do his duty to the best of his ability. The coming days would determine not only the course of the war but the fate of Britain itself.

The Dunkirk crisis began on May 10 when the Germans unleashed their blitzkrieg attack in the west. The operation, code-named Fall Gelb (Case Yellow), had two distinct phases. General Fodor Von Bock's Army Group A, which totaled 29 divisions, suddenly thrust into Holland and Belgium. To the Allies, these moves were reminiscent of the old Schlieffen plan used the early weeks of the World War I. Although Holland's neutrality was not violated in 1914, in other respects it looked as if the Germans were attempting to repeat history by thrusting into Belgium and turning south into northern France.

The Allies countered with a lackluster effort known as Plan D. In this scenario, the BEF and the French First and Seventh Armies would advance to Belgium's River Dyle and dig in on its left bank. The Dyle was a good defensive position and would be an effective deterrent to any German attempts to move south.

The relatively weak French Second and Ninth Armies were posted farther to the southeast in the heavily forested Ardennes region. The area was thought to be safe because the densely forested hills and deep ravines were considered poor country for tanks. South of the Ardennes was the vaunted Maginot Line, a formidable, at least on paper, series of concrete and steel fortifications. It was manned by 400,000 first-rate troops. France had been bled white by World War I, and over time there was a misplaced faith in big guns and fixed fortifications, an attitude described as the "Maginot mentality."

But the Germans had no intention of repeating 1914, nor were they going to waste lives trying to smash their way through an impregnable Maginot Line. Army Group A's descent on Holland and Belgium was in part a ruse, diverting Allied attention from the main German thrust through the supposedly impenetrable Ardennes. If all went well, the 45 divisions of General Gerd von Rundstedt's Army Group A would punch through the Ardennes, cross the Meuse River, then drive to the sea.

If the Germans managed to get to the sea, they would effectively drive a wedge between the BEF and the First French Army in the north and French forces operating south of the Somme River. A panzer corridor could widen, making it harder for the separated Allied armies to reunite. At the same time, the BEF, northern French units, and possibly the Belgian Army would be trapped between Group A's panzer "hammer" and Group B's formidable "anvil." The German planners believed the two powerful army groups could destroy the Allied forces.

There were no fewer than seven panzer divisions with Rundstedt's Army Group A, a veritable mailed fist of 1,800 tanks. Maj. Gen. Erwin Rommel, a commander who would later gain immortality in North Africa and earn the sobriquet Desert Fox, commanded the Seventh Panzer Division. But as events unfolded it was Lt. Gen. Heinz Guderian who took center stage in this effort. Guderian commanded the XIX

Panzer Corps, consisting of the 1st, 2nd, and 10th Panzer Divisions, and had long been a proponent of armored warfare.

From the first the Germans achieved a stunning success. Group A's panzers successfully negotiated the forested slopes and rocky defiles of the Ardennes. They then advanced to the Meuse River where they established a bridgehead. Taken by surprise, the French tried to dislodge the intruders and throw them back across the river, but their attacks were half-hearted at best and ham-fisted at worst.

Some French soldiers fought courageously, but others were so demoralized they surrendered at the first opportunity or simply took to their heels. French generals, fossilized in their military thinking and often ancient in body, simply could not cope with this new style of rapid warfare. General Alphonse Joseph Georges, for example, was commander of the northeast sector, and technically the BEF was under his control. When news came of the German breakthrough he literally collapsed into a chair and began weeping uncontrollably.

Guderian and his tanks were having a field day; opposition was either nonexistent or simply melted away. The French Ninth and Second Armies were pummeled unmercifully until they were effectively destroyed. General Edouard Ruby, deputy chief of staff of Second Army, movingly described the bombing by high-level German Dornier 17s and dive-bombing Stuka Ju-87s as nightmarish. Then, too, there was the terror of continued panzer assaults, with hulking metal monsters belching shells, their treads steamrolling over defensive positions with almost scornful ease.

Thousands of French soldiers shuffled to the rear as prisoners of war. Many of them were dazed automatons, their nerves shattered by relentless Stuka attacks and the sheer magnitude of their defeat. Scarcely glancing at these pitiful poilus, the German tanks sped on, at one point covering 40 miles in four days.

General John Vereker, 6th Lord Gort, was the commander in chief of the BEF. A no-nonsense professional, he was no military genius but was competent and very protective of Britain's only field army. Communications between Gort and his French allies had almost entirely broken down. It was partly because of the rapidity of the German advance, and partly due to the sheer stupidity of the French high command.

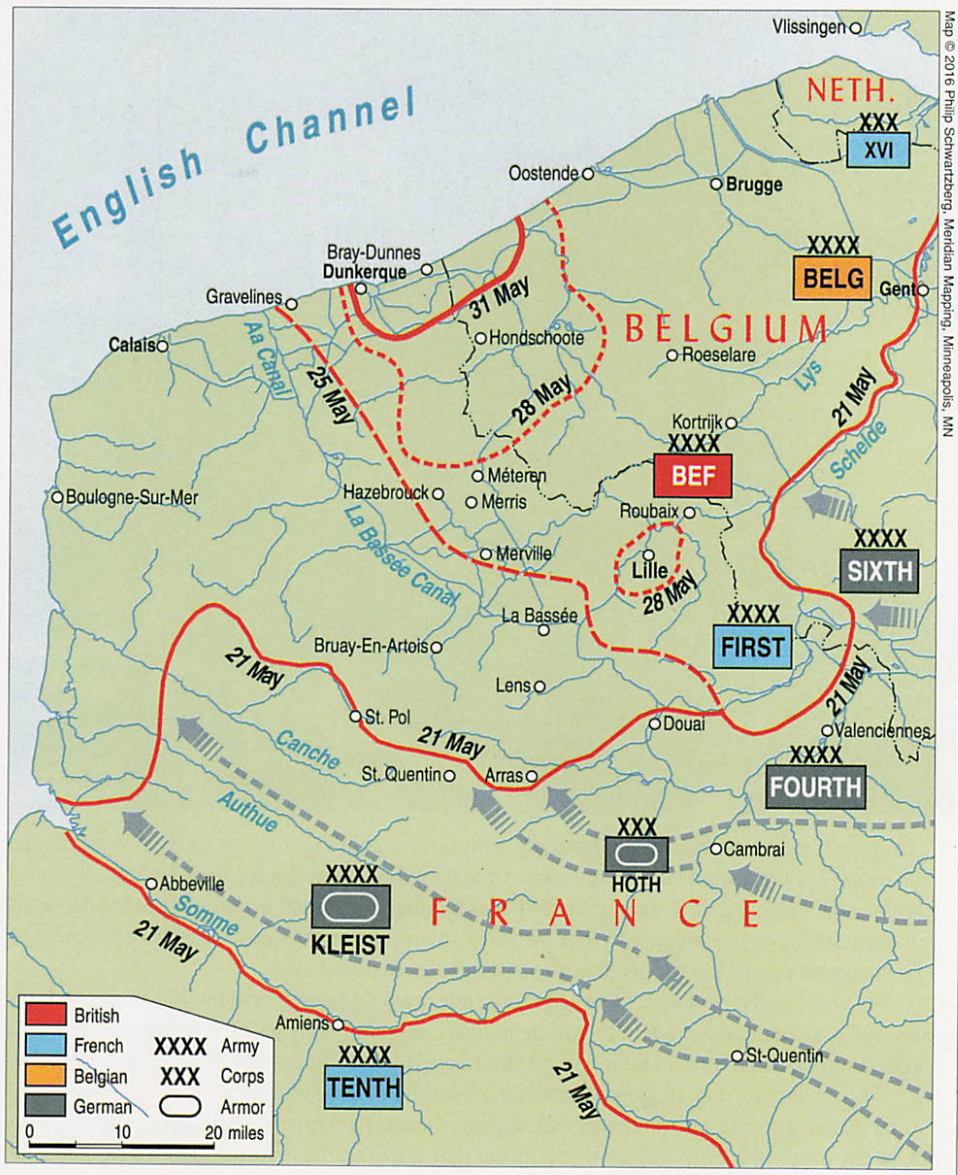
When the war broke out in 1939, the French high command rejected the use of radio communication. Radio messages could be easily intercepted by the enemy, or so the argument ran. The French placed their faith in telephone communication, stringing lines with cheerful abandon, or using civilian circuits when possible. The British had little say in the matter; after all, they had only 10 divisions, the French 90 divisions.

But when the German blitzkrieg struck, all dissolved into chaos. The Germans cut lines, but overworked signalmen just could not keep up with the ever-changing situation. Roads were clogged with retreating units and fleeing civilians, making their task that much harder. At one stage Gort's headquarters moved seven times in 10 days.

The only way to keep communications open was by personal visit or by motorcycle dispatch rider. Maj. Gen. Bernard Montgomery, who would gain later fame defeating Rommel in North Africa, had his own unique way of sending messages. At the time Montgomery was commander of the BEF's Third Division. Riding in his staff car, he would place a message on the end of his walking stick and poke the stick out the window. Sergeant Arthur Elkin would roar up on his motorcycle, grab the message, and speed down the country lanes in search of the addressee. It was no easy task.

Gort had his first real inkling of the true situation when General Georges Billotte, commander of the French First Army Group, visited his command post at Wahagnies, a small town south of Lille. Billotte was normally an ebullient man, but now he looked exhausted and depressed. He spread a map out and explained that no fewer than nine panzer divisions had broken through at the Ardennes and were even then sweeping westward. Worse still, the French had nothing to stop them.

Although there is no specific evidence of the fact, Gort probably started thinking about withdrawing the BEF to the Channel ports about this time. A German trap was closing, and half-hearted French talk about countermeasures was not going to assuage his growing concern. Some of Gort's senior staff began to plan for just such an operation in the early morning hours of May 19.



Map © 2016 Philip Schwartzberg, Meridian Mapping, Minneapolis, MN

Back in London, Secretary of State for War Anthony Eden was dumbfounded when he heard the news that Gort might want to evacuate. Chief of the Imperial General Staff General Sir Edmund Ironside also was not too pleased. It seemed to Ironside like alarmist rubbish. In any case, why couldn't the BEF escape the closing trap by driving south to the Somme and joining the French forces that were supposedly gathering there?

Winston Churchill, Britain's new prime minister, tended to agree with Ironside. Churchill's fighting spirit was aroused. But if the BEF managed to link up with the French forces south of the Somme, the Allies might then mount a counteroffensive and turn the tables on the rampaging Germans.

But Churchill was being overly optimistic. Gort knew the situation better than London. Most of the BEF was still engaged with German Army Group B to the east. For that reason, they could not just suddenly shift and charge direction without serious consequences. If they tried to move south, the Germans would have a golden opportunity to pounce on their flank and rear.

Imperial War Museum

Ironside travelled to France to personally convey Churchill's opinion to the BEF commander. The entire War Cabinet in London also concurred with the prime minister. Gort respectfully stood his ground, explaining how most of the BEF was fighting to the east. Ironside conceded the point but suggested a compromise: why not use Gort's two reserve divisions for a drive south? The French agreed to support the effort with some light mechanized units.

Gort agreed to the proposal. He was sure the effort would be stillborn, but he was a good soldier who was not about to defy the prime minister and seemingly half the British government. Accordingly, a mixed force of infantry and tanks, labeled Frankforce after their commander, Maj. Gen. H.E. Franklyn, was assigned to attempt a breakthrough to the south.

The French also had a new commander in chief, General Maxime Weygand. The septuagenarian had a youthful energy and sunny optimism that dispelled the defeatist gloom that had sunk French headquarters into the depths of despair. Weygand impressed Churchill, grandly unveiling a Weygand Plan that envisioned eight British and French divisions, aided by Belgian cavalry, sweeping southwest to link up with French forces farther south.

But the Weygand Plan was based in fantasy, not reality. The situation was deteriorating rapidly, with Allied forces scattered, fully engaged elsewhere, or simply nonexistent. Weygand grandly issued order after order, paper salvos that might boost morale but did little to counter the German threat. General Order No 1, for example, directed northern armies to "prevent the Germans from reaching the sea," but in point of fact they were already there and had been for several days.

In the meantime, Gort dutifully proceeded with his promised attack. Frankforce was a hodgepodge, hastily assembled collection of tanks, infantry, field and antitank guns, and motorcycle reconnaissance platoons. The cutting edge of the offensive was provided by 58 Mk1 and 16 Mk II Matilda tanks. The British Matilda was one of the best Allied tanks of the early years of the war. It featured armor up to three inches thick, and mounted a high-velocity 2-pounder gun.

The British Frankforce offensive began near Arras on May 21. It was spectacularly successful at first. Rommel's Seventh Panzer Division was surprised and initially thrown into confusion by the sudden assault. Even Rommel himself, a man not prone to panic, thought he was being attacked by several divisions.

But perhaps the biggest surprise was the Mark II Matildas. The German 37mm gun, the standard Wehrmacht antitank weapon, was completely ineffective against the Matildas. It was said that one Matilda actually took 14 direct hits and yet emerged undamaged. On a literal roll, the British tanks advanced 10 miles before the Germans rallied and stopped the attack.

The British offensive was halted by a variety of factors. French support turned out to be weak or nonexistent. The British tanks had outdistanced their infantry and artillery support. But the Germans discovered they, too, had a surprise weapon. The 88mm antiaircraft guns turned out to be superb antitank weapons as well. The 88s of the German 23rd Flak Regiment were particularly effective against the British armor at Arras.

The British effort at Arras had been a forlorn hope. It was now Gort's prime mission to save Britain's field army. Soon contingency plans for the evacuation of the BEF were well in hand. By May 26, the BEF and elements of the French First Army were being squeezed into an ever-

Imperial War Museum

ABOVE: British soldiers wade out to a ship at Dunkirk. BELOW: The beach at Dunkirk is packed with troops awaiting evacuation. As the threat of capture increased, the British altered their evacuation tactics. OPPOSITE: With little time to spare, the British showed great ingenuity in evacuating their troops; for example, oceangoing ships loaded troops directly from the East Mole.

narrowing corridor 60 miles deep and 25 miles wide Most of the British were in the vicinity of Lille, 43 miles from Dunkirk; the French were farther south.

Luckily, British government officials, including Churchill, finally were starting to come to their senses. They had been mesmerized by hopes of victory and Weygand's elaborate fantasies, but now the spell was broken. The BEF had to be evacuated or it faced sure annihilation. Churchill sincerely insisted that, as far as humanly possible, any trapped French troops also be rescued.

It was with a growing sense of urgency that Operation Dynamo was born. It officially began with the arrival of *Mona's Isle,* a British troop transport, the evening of May 26-27. Luckily Ramsey, operating from his headquarters at Dover, had a wide array of resources at his disposal, including 39 destroyers, 38 destroyer escorts, 69 minesweepers, and a host of other naval craft.

Tennant, Ramsey's senior naval officer ashore, should see that the waters immediately in from of the Dunkirk beaches were too shallow for normal seagoing vessels. Even small craft could not get any closer than about 100 yards from shore, so the soldiers would have to wade out to their rescuers. Once the Tommies were aboard, the small boats would deliver them to the larger ships and then go back for another load.

Approximately 300 "little ships," many of them scarcely more than boats, answered the call to duty. Every imaginable type of craft was used; if it could float, it passed muster. There were motorboats, sloops, ferries, barges, yachts, and fishing boats. Most of the civilians taking part were fishermen, but incredibly one boat was manned by teenage Sea Scouts.

But this shuttle system was taking too long in practice. Necessity is the mother of invention, and Tennant started thing about the moles. The West Mole was unusable because it was connected to the oil terminal and that facility was in flames. The East Mole, 1,600 feet long, was connected to the beaches by a narrow causeway. But the mole was a breakwater, designed to protect the port from raging seas. It was not intended to serve as a dock for shipping.

Tennant experimented a little, and it was found that ocean-going ships could indeed use the mole as a loading dock. The evacuation process was considerably accelerated, and more men could now be taken away.

In the meantime, land evacuation plans were firming up. With French cooperation, a defensive perimeter was established around Dunkirk and its immediate environs, a bridgehead that protected the port during the BEF's evacuation. The generally marshy nature of the terrain helped the defenders, and man-made waterways like the Berg Canal were incorporated into the overall plan. Dikes were opened in certain areas, transforming these quagmires into shallow seas.

"ROMMEL'S SEVENTH PANZER DIVISION WAS SURPRISED AND INITIALLY THROWN INTO CONFUSION BY THE SUDDEN ASSAULT. EVEN ROMMEL HIMSELF, A MAN NOT PRONE TO PANIC, THOUGHT HE WAS BEING ATTACKED BY SEVERAL DIVISIONS."

Imperial War Museum

Imperial War Museum

ABOVE: A line of evacuees snakes through from the beach into the surf at Dunkirk. The British pressed 300 "little ships" into service to help rescue the thousands awaiting evacuation. OPPOSITE TOP: British troops arriving in Dover, England, receive a warm welcome from their fellow countrymen. OPPOSITE BOTTOM: French prisoners await instructions from their German captors. British Prime Minister Winston Churchill could not guarantee that all of the trapped French troops would be evacuated in time.

Lieutenant Colonel Robert Bridgeman, 2nd Viscount Bridgeman, was responsible for planning the perimeter. Methodical, clear-sighted, and hard working, he was so absorbed in his task that he was subsisting mainly on chocolate and whiskey. The perimeter would be about 30 miles wide and up to seven miles deep.

To buy time, strongpoints were established to slow the German advance. Gort had established a Canal Line that used the Aa Canal and La Basee Canal to guard the forward approaches to Dunkirk. British units held these strongpoints for as long as possible, fighting with dogged determination and stubborn courage, until they were forced to withdraw yet again.

The Dorset Regiment was holding a strongpoint at Festubert when it became clear that it was cut off and virtually surrounded. When they received orders to withdraw, they waited until nightfall to make the attempt. Colonel E.L. Stevenson, the battalion commander, had no maps but did possess a compass. His party included about 250 Dorsets and a ragtag group of odds and sods who had lost their units.

It was a pitch black; even the stars were shrouded by menacing dark clouds. At one point, Stephenson found himself confronted with a German sergeant who was out inspecting Wehrmacht outposts. Quickly drawing his pistol, he coolly killed the sergeant with one well-placed shot and motioned for the men to continue their trek.

Groping their way through the darkness, stumbling forward as best they could, the Dorsets suddenly came upon a road that barred their way. They had to cross this road to gain Allied lines, but at the moment it was filled with a convoy of German tanks and support vehicles rolling their way to some unknown destination. It looked like an entire panzer division was on the move, the Germans so confident they had their headlights blazing.

Stephenson and his men hunkered down in the shadows, hoping for a chance to cross the road. After about an hour the last vehicle passed, and the coast was clear. But the respite was temporary because another convoy of Germans could be heard rumbling up the road. The Dorsets scrambled across the road and hid in the underbrush just as the Germans came into view.

But the Dorsets' odyssey was only just beginning. Guided by Stephenson's trusty compass, they waded waist-deep through ditches stinking with garbage, groped though plowed fields, and crossed a wide and deep canal twice. They reached Allied lines around 5 AM, dirty and exhausted, but triumphant.

The last few days had been a nightmare for the Allies, but the victorious Germans, perhaps a bit stunned by their own successes, were having their own set of troubles. Guderian's panzers pushed on, with the Sambre River on their northern flank and the Somme on their left. On May 20 German tanks reached Abbeville at the mouth of the Somme, to all intents and purposes fulfilling their original mission. They had reached the sea and were the tip of huge panzer corridor that divided the First French Army and the BEF from French forces south of the Somme.

German panzers rumbled past bewildered French peasants, their treads kicking up clouds of dust plumes. They were followed by truckloads of motorized infantry, bronzed young soldiers who seemed to be in high spirits.

But now that they were on the coast, what would be the next course of action? At 8 AM on May 22, the German high command sent a message in code Abmarche Nord. The plan now was to thrust north, taking the Channel ports and blocking the BEF's last escape route. The Second Panzer Division would head for

Boulogne, the Tenth Panzer Division for Calais, and the First Panzer Division for Dunkirk.

Lieutenant General Friedrich Kirchner's 1st Division tanks set out around 11 AM on May 23. Dunkirk was 38 miles to the northeast. By 8 PM that same day, advance units reached the Aa Canal, which was only 12 miles from Dunkirk. The waterway was part of Gort's advance Canal Line defense, but at the moment there were relatively few Allied troops in the area to man it. Although Guderian and his advance panzer crews were in a state of euphoria, some senior officers were not so happy.

To Rundstedt, the long panzer corridor was far too vulnerable to counterattack. The panzers and motorized infantry were too far ahead of the unglamorous but vital regular infantry. It was the foot-slogging regular infantry what would shore up the corridor's long and vulnerable flanks, not seemingly thin as an eggshell and liable to break under a determined Allied counterthrust.

The British attack at Arras had badly scared the Germans, who feared the Allies might be planning an even more powerful counterattack. The Dunkirk area was not really suitable for armor, which was something everyone knew. What is more, a few panzer units were down to 50 percent strength. Some were victims of enemy action, but many more were simply worn out and in need of maintenance.

Rundstedt ordered the panzers to halt, a decision that was supported by Fourth Army commander General Guenther von Kluge. Hitler concurred; he was becoming nervous about the French coastal areas, which he had known firsthand as a soldier in World War I. The land was boggy and cut by numerous canals and certainly not ideal for armor.

The action at Arras might have been abortive, but it did manage to scare the Germans into a mood of excessive caution. Suppose the Allies were planning a new thrust, a counterattack even greater than the one at Arras? It was a possibility that haunted both Hitler and his senior officers.

Luftwaffe chief Hermann Göring now put in his bid for glory. He told the Führer his aircraft could finish off the British, in effect driving them into the sea. Hitler gave Göring the green light in part because his eyes were gazing elsewhere. The panzers still had to defeat the French forces south of the Somme. As for Paris, the prize that had eluded the Germans in World War I, the objective seemed well within Hitler's grasp.

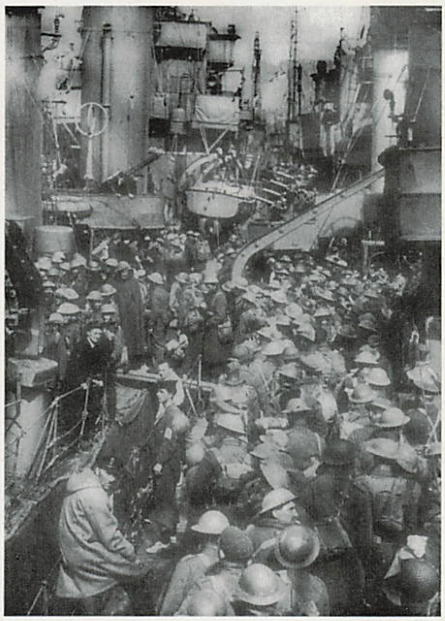
But after two days Göring's assurances were shown to be empty bombast. The BEF was far from destroyed, so the Führer lifted the halt order. The panzers renewed the advance on the afternoon of May 26, but the Allies had been given two precious days to continue the evacuation.

Time was running out if the BEF was going to pull off a successful withdrawal. The Belgian Army capitulated on the night of May 27, a situation the Germans were bound to exploit. King Leopold III of the Belgians had protested that his army could do no more, but the surrender left the BEF's flank dangerously open. For a time, only German uncertainty about a renewed advance prevented a British disaster.

While Hitler and his generals debated, battered units of the BEF continued to arrive at Dunkirk. They had trekked for miles, their progress impeded by roads choked with fleeing refugee civilians. The Luftwaffe was having a field day, with German planes strafing civilian and soldier alike with cheerful abandon. Rations were scanty, and little food was found along the way. Fatigue was etched in their faces, and their battledress was dirty and soaked with sweat, but somehow they managed to put one foot in front of the other by sheer force of will.

Bridgeman had done his work well. To avoid unnecessary confusion, the three corps of the BEF were assigned specific debarkation sectors. III Corps would head for the beaches at Malo-les-Bains, a suburb of Dunkirk. I Corps would march to Bray-Dunes, which was six miles further east. II Corps was told to assemble at La Panne, which was just across the Belgian border.

BEF headquarters was at La Panne. The BEF had selected that location for its headquarters because it was the site of a telephone cable with a direct link to England. Lt. Gen. Sir Ronald Adam set up shop in the Maire, or town hall, of the seaside resort.



The bone-weary Tommies passed through the defense perimeter with a sense of relief, then entered a world that must have seemed almost surreal under the circumstances. Malo-les-Bains and the other towns were peacetime seaside resorts, where many French and Belgians had enjoyed summer holidays. There were bandstands where music once played, and carrousels where laughing children had ridden elaborately carved horses. Beach chairs lay scattered about and the colorful cafés still had stocks of refreshments.

The British soldiers seemed happy to be in this vacation spot and were going to make the most of it while they waited for deliverance. Dunkirk itself still blazed, the raging oil-fueled fires sending up columns of billowing smoke 13,000 feet into the air, but most of the troops were on the flat, sandy beaches that stretched toward the Belgian border.

Continued on page 66

Both: Imperial War Museum

These four commanders of international renown led their troops to victory, earning in the process the respect of their people and adversaries alike.

RUSSIA'S IMMORTAL GENERALS

BY VICTOR KAMENIR

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Russian generals (clockwise from top left) Alexander Nevsky, Peter Kotlyarevski, Mikhail Skobelev, and Mikhail Suvorov. The four generals advanced Russia's military capabilities and enhanced its prestige among European nations. OPPOSITE: Mounted on his horse, Prince Alexander Nevsky leads his Novgorod army to victory over the Teutonic Knights on ice-covered Lake Peipus in 1242. Nevsky kept Novgorod intact despite attacks by the Germans, Mongols, and Swedes.

IN 1242, Russian Prince Alexander Nevsky faced the armored might of the Teutonic knights. Generals Alexander Suvorov and Peter Kotlyarevski were Napoleon's contemporaries, while General Mikhail Skobelev exemplified the panache of the Victorian Era. Nevsky, Suvorov, and Skobelev have gained international renown, while Kotlyarevski remain obscure even in modern Russia.

Among them, the four Russian commanders won many battles, large and small, and received dozens of wounds for their country. Yet not one of them fell on the field of battle.

They faced some of the greatest foes to challenge Russian might, including Swedish raiders, German knights, Ottoman janissaries, Polish lancers, and Napoleon's grenadiers.

Scions of a military caste or coming from humble beginnings, the four military leaders made invaluable contributions not only to the development of Russian military science, but also to the development of the Russian state. For example, Nevsky was a skilled politician, practicing the art of *realpolitik* centuries before the word was invented, and Suvorov influenced Russian military thought and doctrine into the 21th century and expanded prestige of Russian arms into Western Europe.

Their personal bravery, unswerving commitment to their goals, and the care they showed for the welfare of their people rested on the unshakable bedrock of loyalty and love for their country.

ALEXANDER NEVSKY

Alexander Nevsky, the second son of Prince Yaroslav, was born in 1221 to a country torn apart by internal strife and threatened by foreign enemies. Thirteenth-century Russia was a mosaic of fiercely independent feudal duchies each ruled by a prince, or knyaz. Unique among them was the Republic of Novgorod, located near the Baltic Sea in northwestern Russia. While electing their own civilian administration officials, Novgorod's assembly invited members of neighboring princely families to be its military commanders. In 1238, Yaroslav ascended to throne of the Grand Duchy of Vladimir, the preeminent Russian duchy, with the position of the Prince of Novgorod going to his teenage son Alexander.

Tutored from a very early age to be a warrior, Nevsky soon received an opportunity to show his mettle. During the 12th and 13th centuries, Novgorod and Sweden were engaged in a series of wars for control of the

K. Savitsky Art Museum, Penza, Russia / Bridgeman Images

territory surrounding the Gulf of Finland. At the same time, Novgorod was fighting off encroachments by the Livonian Brothers of the Sword in the area of the modern-day Baltic States of Estonia and Latvia. When the Sword Brethren, as they were called, were decimated in a battle with the pagan Kurs in 1236, they merged with the much larger Order of the Hospital of St. Mary of the Germans of Jerusalem (Teutonic Knights).

In early July 1240, a fleet of Swedish longships entered the mouth of the Neva River from the Gulf of Finland. The fleet was quickly spotted by coastal watchers of the Izhora tribe, allied with Novgorod, and kept under constant observation as it continued east along the river. In all likelihood the Swedish intent was to navigate the Neva River to Lake Ladoga and then descend the Volkhov River to the city of Novgorod. Upon receiving news of the enemy, Nevsky did not wait for the full mobilization of the Novgorod militia or request assistance from his father. He quickly moved north to Lake Ladoga with only his household cavalry and that of his nobles, where he was joined by Ladoga and Izhora levies.

AT THE CRITICAL MOMENT, NEVSKY GAVE THE COMMAND AND THE RUSSIAN CAVALRY FELL UPON THE GERMANS AND THE CHUD FROM BOTH FLANKS. AFTER A SHORT STRUGGLE, THE ENEMY WAS ROUTED.

Alamy Images

Alexander Nevsky launches a surprise attacks against the Swedish camp on the Neva River in July 1240.

The Swedish fleet disembarked at the confluence of the Neva and Izhora Rivers, almost 100 miles north of Novgorod. Unaware of any significant Russian forces in the area and with their camp secured on two sides by the two rivers, the Swedish carelessly did not post adequate sentries. On July 15, the Russians attacked and penetrated deep into the Swedish camp. Nevsky was in the thick of fighting. The valiant warrior is believed to have left a mark with his spear on the face of the Swedish commander.

Despite the initial confusion, the enemy troops rallied and were able to repulse the attack. Once the Russians withdrew, the Swedish and their allies reboarded their ships and retreated west along the Neva River. Details about the numbers of participants and their casualties are sketchy. The Russians likely numbered fewer than 2,000 men, while the Swedish possibly fielded twice that number. Russian casualties were said to be very light. As was customary at that time, however, only the fallen professional warriors were mentioned; casualties among the levies were not counted. Likewise, Swedish casualties are vaguely described as high as several hundred.

After victorious Nevsky returned to Novgorod, the gratitude of the city fathers did not last long and in late 1240 Nevsky left the city. A new threat to Novgorod, however, was looming in the west. Even before Nevsky's departure, the Teutonic Knights advanced on Novgorod, capturing its vassal city of Pskov. Only after the Germans approached within 20 miles of Novgorod in early 1241 did the city council appeal to Nevsky to return.

Throughout 1241, Russian forces under Nevsky's leadership cleared the Pskov lands and invaded the territory of the Teutonic Knights in early 1242. After the leading Russian detachment was defeated on April 5, 1242, Nevsky concentrated his forces at a cluster of three lakes that form the modern-day border between Estonia and Russia. The winter was harsh and there was a thick layer of ice over most of the lakes, presenting the only flat surface in the area. Nevsky deployed his forces on the ice at the south end of Lake Peipus, the northern most of the three.

Details of the Russian deployment are scarce. In the typical fashion of the day, Russian forces would have been deployed with a large main regiment in the center composed of infantry. On the flanks would be cavalry under Nevksy himself. It is known, however, that a thick screen of archers and crossbowmen was deployed in front of the main body.

The Teutonic Knights deployed in their typical fashion as well, the Schweinkopt, the "Pig's Head." This formation was designed for maximum shock effect. Heavily armored knights formed a wedge at the front of the column. This formation allowed the knights on the flanks to be protected by those in the rank behind them. The knights were followed by a block of mounted men-at-arms and retainers. Immediately behind the Germans came allied Chud (pronounced chood) tribesmen, stiffened with some German soldiers. The exact strength of combatants is unknown. Sources vary greatly, citing from 4,000 to more than 15,000 men on each side.

As the Germans advanced across the ice, they were met with volleys from Russian archers and bowmen, who then fell back toward their main body. As the Germans drove into the central Russian regiment, its flanks began to extend to envelope the enemy. At the critical moment, Nevsky gave the command and the Russian cavalry fell upon the Germans and the Chud from both flanks. After a short struggle, the enemy was routed. Some of the Germans attempted to escape to the south, where a number of them fell through the thinner ice over the Warm Lake. This decisive defeat put an end to Teutonic expansion to the east.

Between 1237 and 1240, the majority of the Russian duchies succumbed to the Mongol invasion. However, unlike their conquests in Asia, the Mongols did not absorb the Russian territories into their empire, but granted them the

Wikimedia

Mikhail Suvorov leads an army to victory against the French at Novi in 1799. In the series of decisive battles against revolutionary France, Suvorov defeated every French army sent against him, completely clearing northern Italy of enemy forces.

status of vassal states, content with gathering tribute and enlisting Russian levies for various campaigns. Rival Russian princes vied against each for favors from Mongol rulers.

After his father Yaroslav died in 1246, rumored to have been poisoned, shortly after visiting the Mongol Golden Horde, Nevsky walked the knife's edge of armed politics among various Russian factions and the Mongols. In 1252, he was installed by the Mongols as the Grand Prince of Vladimir, supreme among Russian rulers. Some modern Russian historians criticize Alexander as being too subservient to the Mongols, but he was able to keep the northern Russian territories from being invaded.

While visiting the Golden Horde in 1263, Nevsky became ill. It was rumored that Nevsky was poisoned in retaliation for his protection of the Russian rebels who murdered Mongol tax collectors and recruiters. Nevsky died on November 14 on his way back from the Golden Horde, taking monastic vows on his deathbed. The name of Nevsky (which means "of the Neva") is greatly revered in Russia. In 1574, the Russian Orthodox Church canonized Nevsky as a saint.

ALEXANDER SUVOROV

In 1730, a son was born to Lt. Col. Vasili Suvorov. The father, who eventually rose to the ranks of a full general and a senator, was a great admirer of Alexander Nevsky and named his son after his hero.

Alexander Suvorov was a small, sickly child and his father resigned himself to the realization that his son was unfit for military service. Despite his father's decision, young Alexander set his mind on the military.

Fate intervened in 1742 when General Abram Hannibal visited the elder Suvorov. Both Hannibal and Suvorov were godsons and former aides-de-camp of Czar Peter the Great. Hannibal was so impressed with the intelligent and quick-witted Alexander that he talked Suvorov into allowing the boy to enter the military service.

The same year, the 12-year-old Suvorov enrolled as a private in the prestigious Semenovski Life-Guard Regiment in St. Petersburg, while also attending the Land Forces Cadet Corps.

Suvorov first saw combat during the Seven Years War, serving in a variety of combat, staff, and administrative postings. He rose to the rank of colonel in 1762 at the age of 32. Afterward, he served with distinction as a regimental commander during the war with Poland from 1769 to 1772, achieving the rank of major general in 1770.

It was in Russia's wars against the Ottoman Turks that Suvorov gained fame that remains untarnished until this day. Suvorov developed his own style of fighting, based on shock and maneuver, diametrically opposing the linear tactics of his day. The training he continuously instilled in his troops brought handsome dividends against the brave but undisciplined forces of the Ottoman Empire, still clinging to outdated weapons and tactics.

Transferred to the Turkish front in 1774, Suvorov played a key role during the Battle of Kozludzha on June 20 in which an outnumbered Russian army routed a larger Turkish force. The battle decided the campaign and led the Ottoman government to sign a greatly unfavorable peace treaty.

When the next war with Turkey flared up in 1787, Suvorov was there, now a lieutenant general. One of the most important battles of the war took place on September 22, 1789, near the Rymnik River. Leading the allied Austro-Russian force numbering 25,000 men at the Battle of Rymnik, Suvorov attacked Turkish positions occupied by 100,000 troops. After suffering heavy losses from the initial Russian attack, the Turks rallied and launched multiple counterattacks against the allies. Each time, the impetuous Turkish charges were shattered by the disciplined volleys of Austrian and Russian troops. The fighting continued for 12 hours and ended up in the complete defeat of the Turkish army, which lost 15,000 men. In contrast, the Allies lost fewer than 1,000 men. For his victory at Rymnik, Suvorov was elevated to the rank of count in both the Russian and Austrian nobilities with the addition of Rymnikski to his last name.

As the war continued, Russian forces besieged the strategic Izmail Fortress on the Danube River. The siege dragged on until the Russian commander-in-chief ordered Suvorov to take the fortress. Arriving there on December 12, 1790, Suvorov sent an ultimatum to the Turkish commander, demanding surrender. When the latter refused, Suvorov spent the following eight days training his forces for an assault, creating a practice camp complete with a ditch and a section of a wall similar to the ones surrounding Izmail.

Museum of Russia, St. Petersburg

A romantic depiction of Mikhail Suvorov's army crossing the snow-covered Alps. The brilliant Russian general successfully extracted his army from the mountains in 1799 in the face of superior French forces. BELOW: Russian General Peter Kotlyarevski outfought Persian Crown Prince Abbas-Mirza in the Caucasus Mountains.

After a day-long bombardment, Suvorov launched his forces against the fortress on December 22. After two hours of heavy fighting, Russian troops gained the fortress wall and the Turks retreated deeper into the city. Vicious house-to-house fighting lasted until mid-afternoon. In places, Russian artillery was brought into the city and fired grapeshot at point-blank range. Russian losses numbered more than 4,000 killed and 6,000 wounded. The Turks lost 26,000 killed, many of them civilians, and 9,000 taken prisoner.

Suvorov's career suffered a setback after Czarina Catherine II died in November 1796. She was succeeded by her son Paul I, who was an ardent supporter of Prussian Frederick the Great. Paul I began reorganizing the Russian army on the Prussian model, giving it a new doctrine and uniforms. Endless drill replaced tactical training. Suvorov was an outspoken critic of the reforms, in particular the reinstitution of corporal punishment. Incensed with Suvorov's criticism, the emperor dismissed Suvorov into a forced retirement in February 1797. The general was under constant police surveillance and he was not allowed to travel farther than a few miles from his residence.

The banishment, however, lasted only one year. The forces of revolutionary France were winning victory after victory in Europe, and the Austrian emperor requested that Suvorov be placed in command of the Austrian army. Reluctantly, Emperor Paul I dispatched Suvorov to Vienna. Arriving there in March 1798, Suvorov took command of the joint Austro-Russian army in northern Italy.

In a series of decisive battles, Suvorov defeated every French army sent against him. By the end of May 1799, most of northern Italy was swept clear of French forces. On August 19, Suvorov was elevated to the princely rank and was titled Prince Italiyski Count Suvorov-Rymnikski.

In early September, Suvorov was ordered to proceed to Switzerland over the Alps to link up with the Russian force under General Alexander Korsakov. Lacking a sufficient number of transport mules, Suvorov was forced to leave his artillery and most of his supplies behind as he entered the mountains. His every step was dogged by elements, treacherous terrain, and delaying tactics of French rear guards. After fighting his way through the St. Gothard Pass, Suvorov came upon the Devil's Bridge, spanning a deep gorge over the Reuss River. Against heavy French resistance, Suvorov forced the bridge, finally arriving at Lake Lucerne where he learned of Korsakov's defeat.

Suvorov's force was exhausted, threadbare, starving, and nearly out of ammunition. The sexagenarian general was ill, having shared all privations with his men. Multiple French divisions, totaling 80,000 men, were closing in on Suvorov's 23,000-man army. With heavy heart, Suvorov ordered the retreat northeast to Austria. Time and time again, running out of ammunition, the Russian soldiers counterattacked with bayonets, driving the French back. In early October 1799, Suvorov reached Austrian territory, ending the campaign.

Exhausted and sick, Suvorov returned to St. Petersburg in May 1800. Czar Paul I, still bearing him ill will, refused to see him. When Suvorov died on May 18, the czar did not attend his funeral. During the course of his illustrious career, Suvarov had fought more than 60 battles, all of which he won.

PETER KOTLYAREVSKI

Peter Stepanovich Kotlyarevski was born a son a village priest in eastern Ukraine in 1782 and was set to follow in his father's footsteps until fate intervened. A Russian officer, Lt. Col. Ivan P. Lazarev, traveling to a new assignment in the Caucasus Mountains, was forced to seek shelter at the church during a harsh winter storm in 1792. Lazarev was so impressed with the intelligent 10-year-old boy that he secured a posting for him in his own unit, the Caucasus Jaeger Corps. The next year, Kotlyarevski was enrolled as a private in the 4th Battalion, commanded by Lazarev. As was common at the time, well-born young men went up in ranks as they pursued their education. A year later, at the age of 12, Kotlyarevski became a sergeant.

The Russian forces in the Caucasus were engaged in constant warfare against rebellious mountain tribes, as well as resisting Turkish and Persian efforts to stem the Russian encroachment into their traditional spheres of influence south of the mountains. The fighting was vicious, with neither side giving nor asking quarter. In 1796, 14-year-old Kotlyarevski received his baptism of fire during the storming

Anne S.K. Brown Military Collection

of the Persian fortress of Derbent on the shore of the Caspian Sea.

Kotlyarevski was promoted to ensign in 1799 and became aide-de-camp to Lazarev, now a major general. Sadly, their association soon came to a tragic end. In 1800, the Dowager Queen Mariam of Georgia, upset at Czar Paul's I abolition of the Georgian monarchy, personally stabbed Lazarev to death when he arrived at the Georgian capital of Tiflis to remove her to Russia. The new commander of the Russian forces in the Caucasus offered Kotlyarevski a position as his personal aide-de-camp. Kotlyarevski declined, however, choosing instead to command a company in a jaeger regiment. Later in the year, now a captain, Kotlyarevski participated in the defense of Tiflis from a large force of rebellious Lezghin tribesmen.

In June 1805, a 40,000-strong Persian army invaded the territory of modern-day Azerbaijan. The advancing Persian vanguard ran into a small Russian detachment garrisoning a small ancient fort at the Askeran village, blocking the road in a narrow mountain pass. The 500 Russian soldiers, including Kotlyarevski's company, augmented by local Armenian levies, held out for two weeks. As the ever-increasing Persian reinforcements made the Russian position untenable, loyal Armenians helped the Russians escape along mountain trails.

As the years went by, Kotlyarevski continued campaigning, steadily rising through the ranks and accumulating wounds. In 1807, at the age of 25, he was promoted to colonel and given command of a jaeger regiment.

In 1810, a 30,000-strong Persian force led by Crown Prince Abbas-Mirza invaded the Karabakh Khanate, a protectorate of the Russian Empire. One of the leading Persian detachments occupied the Migri Fortress, strategically located at key crossroads. Colonel Kotlyarevski with a force of 400 jaegers and grenadiers was dispatched to retake the fortress.

Using local guides, Kotlyarevski led his men through difficult mountainous terrain and arrived in the immediate vicinity of Migri unobserved. A sudden Russian attack steadily cleared one outlying fortification after another, eventually forcing the bulk of the 2,000-man garrison to retreat from the fortress. Placing himself at the head of the attack, Kotlyarevski suffered a wound to his left arm. Two days later, Abbas-Mirza approached Migri with his main force. After several unsuccessful probes and finding the fortress too well defended to risk an assault, the Persian prince ordered his force to retreat back to the border.

Franz Roubaud/Wikimedia

Russians under General Peter Kotlyarevski campaigning against the Persians in mountainous Azerbaijan. Like all great generals, Kotlyarevski pursued his retreating enemies in order to annihilate them.

But it was not in Kotlyarevski's nature to let the enemy slip away unchallenged. Augmented by few local levies, he gave chase and caught up with the retreating Persian army as it was fording the Araks River at night. The Russian force of slightly more than 400 men was greatly outnumbered by the Persian host of more than 10,000. Knowing that any hesitation would be deadly and that no men could be spared to guard captives, Kotlyarevski ordered his men not to take any prisoners. A furious Russian bayonet attack exploding out of the darkness completely took the Persian forces by surprise. Disorder and panic swept through their ranks and the Persian army melted away.

The next year, 1811, Kotlyarevski executed another daring maneuver, taking two infantry battalions and 100 Cossacks through snow-covered mountains to capture the Akhalkalak Fortress by a night assault. For this audacious action, Kotlyarevski was promoted to major general.

In 1812, once again, Abbas-Mirza led a large army against the Russian-controlled territory. The thinly spread Russian forces could not garrison all the key points, and the Persians quickly occu-

pied several strategic positions. Maj. Gen. Kotlyarevski was given authority to operate on his own initiative to recapture the territory. The force under his command numbered 2,200 men and six cannons; they faced roughly 30,000 Persians.

Crossing the Araks River, the border between Russia and Persia, Kotlyarevski attacked the Persians at Aslanduz on October 19 and defeated them, capturing the fortress later during the night. For this victory, Kotlyarevski was promoted to lieutenant general.

The Lenkoran Fortress, surrounded by swamps, protected by strong fortifications, and garrisoned by 4,000 Persians, was next. On December 26, Kotlyarevski arrived at Lenkoran. Lacking heavy artillery, the five-day bombardment was futile. With cannon ammunition running out and with reports of a strong approaching Persian relief force, Kotlyarevski made the decision to take the fortress by storm.

On the eve of assault Kotlyarevski ordered, "There will be no retreat. We must to take the fortress or all die.... Don't listen for the recall signal, it will not come!" Looting was prohibited under penalty of death until the assault was over.

The assault began before dawn on December 31, 1812. The advancing Russian columns were met with withering fire. Particularly heavy casualties were among Russian officers, customarily leading from the front. When a colonel leading one of the columns fell, Kotlyarevski placed himself at the head of his men. A bullet pierced his leg, but the brave general began climbing an assault ladder. As he reached the top of the wall, two bullets struck him in the head and Kotlyarevski tumbled from the wall.

Seeing their beloved general fall, the enraged Russian soldiers carried the fortress by bayonet. No quarter was given and a majority of the Persian defenders were hunted down through the fortress. Miraculously, Kotlyarevski survived his grievous wounds.

The fall of Lenkoran decided the outcome of the Russo-Persian War, with Persia ceding large swaths of territory south of the Caucasus Mountains. Due to his wounds, Kotlyarevski resigned from the army, settling in Ukraine.

When the next war with Persia began in 1826, Czar Nicholas I offered Kotlyarevski command of the Russian forces in the Caucasus. Kotlyarevski declined, however, citing poor health. Kotlyarevski lived the remainder of his life in seclusion. He passed away in 1852.

Events in the Caucasus were overshadowed by Russia's titanic struggle against Napoleon, and the name of Kotlyarevski is virtually unknown even in modern Russia. Nonetheless, the "Scourge of Caucasus" wrote a brilliant page in Russian military history.

Military Historical Museum of Artillery, Engineers & Signal Corps, St. Petersburg

A contemporary painting of the Battle of Shipka Pass shows Russian troops fending off a desperate attack by the Turks. Russian General Mikhail Skobelev distinguished himself during the Russo-Turkish War of 1877-1878 by capturing the strategic mountain pass.

MIKHAIL SKOBELEV

Mikhail Dmitrievich Skobelev was born on September 29, 1843, in the Peter-and-Paul Fortress, St. Petersburg, where his father was serving as a lieutenant and his grandfather was the commandant. Educated in Russia and France, young Skobelev entered military service at the age of 18 in 1861, commissioned directly into the most prestigious unit in the Russian Army, the Chevalier Guard Cavalry Regiment, where his father started his military career as well.

In 1864, by his own request, Lieutenant Skobelev transferred to a hussar regiment on active service, fighting against Polish rebels. He participated in several actions, earning a decoration for bravery. In 1866, Skobelev graduated from the General Staff Academy and was assigned to the General Staff. Besides bravery and showing an independent streak, the young officer demonstrated a talent for staff work and was periodically assigned to various staff positions.

Skobelev's career took off in 1868 after his assignment to the Turkmenistan Military District in the so-called Russian Middle East (territories of modern-day Kazakhstan, Kirghizia, Tadzhikistan, Turkmenia, and Uzbekistan). Not all the local rulers, or khans, or some segments of the population submitted to the Russian rule, and the region was rife with constant raids, skirmishing, and looting.

The young officer distinguished himself as a skilled small-unit cavalry leader, conducting frequent reconnaissance forays and skirmishing. In 1873, Skobelev participated in the campaign against the Khiva Khanate, one of the last independent enclaves in the region. On one occasion, leading a detachment of cavalrymen, Skobelev attacked a much larger group of local horsemen, routing them. This action cost him seven lance and saber wounds.

In early 1875, Mikhail Skobelev returned to Turkmenistan, already a colonel, where a rebellion was flaring up in the former Kokand Khanate. Once again, Skobelev distinguished himself in numerous actions, almost always fighting severely outnumbered. For his accomplishments, 32-year-old Skobelev was promoted to major general and appointed as the military governor of the newly established Fergana District. The region was far from peaceful, however, and on several occasions Skobelev had to resort to brutal measures to bring the rebellious tribesmen to heel.

With the start of the Russo-Turkish War of 1877-1878, Maj. Gen. Skobelev was transferred to Bulgaria. Briefly serving as the chief of staff of a division commanded by his father, Dmitri Skobelev, Mikhail soon received an independent command. After distinguishing himself in cap-

Military Historical Museum of Artillery, Engineers & Signal Corps, St. Petersburg

General Mikhail Skobelev led the Russians in a successful assault on the Grivitsa redoubt during the Siege of Plevna in 1877. His men repulsed five furious counterattacks by the Turks.

turing the strategic Shipka Pass over the Balkan Mountains and the town of Lovcha, Mikhail was promoted to the rank of lieutenant general, same as his father. The young general was immensely popular among Russian troops. Always in the thick of the action, the dashing Skobelev took to wearing a bright white uniform coat and riding a white horse. The Russian soldiers called him "The White General."

Skobelev won everlasting fame during the siege of the town of Plevna. The town was well fortified and garrisoned by a strong Turkish force ably led by General Osman-Pasha. Turkish defenses consisted of a number of well-sited and mutually supporting redoubts with interlocking fields of fire. On July 17-18, 1877, without preparations, the Russians launched two assaults against the town and were soundly repulsed, suffering heavy casualties in the process.

On August 30, after four days of artillery bombardment, three Russian columns advanced on the town. Two columns, after capturing several minor outlying positions, bogged down in the face of withering Turkish fire. The third column initially met a similar fate until Skobelev personally led the reserves forward to support their wavering comrades.

Wearing a white uniform and mounted on a white charger, Skobelev presented a tempting target for Turkish riflemen. As he neared the southern redoubt, Skobelev's horse was shot out from under him, and the general led his men forward on foot. Inspired by Skobelev's leadership and enraged by their casualties, Russian soldiers broke into the southern redoubt. Those Turkish defenders who did not flee were mercilessly hunted down with bayonets.

In the morning, the Turks launched five furious counterattacks to retake the redoubt, each beaten back at great cost. Incredibly, the Russian command ordered Skobelev to abandon the redoubt. With a heavy heart, Skobelev and his men withdrew from the redoubt. "Napoleon was happy when one of his marshals could gain a half an hour for him," said Skobelev. "I held on for 24 hours and they did not take advantage of it." The town eventually surrendered in December after a four-month siege.

After the fall of Plevna, Skobelev led the advance cavalry detachment toward Constantinople. However, the Turkish government lost the will to fight. When the armistice was signed on January 31, 1878, Skobelev was less than 20 miles from Constantinople.

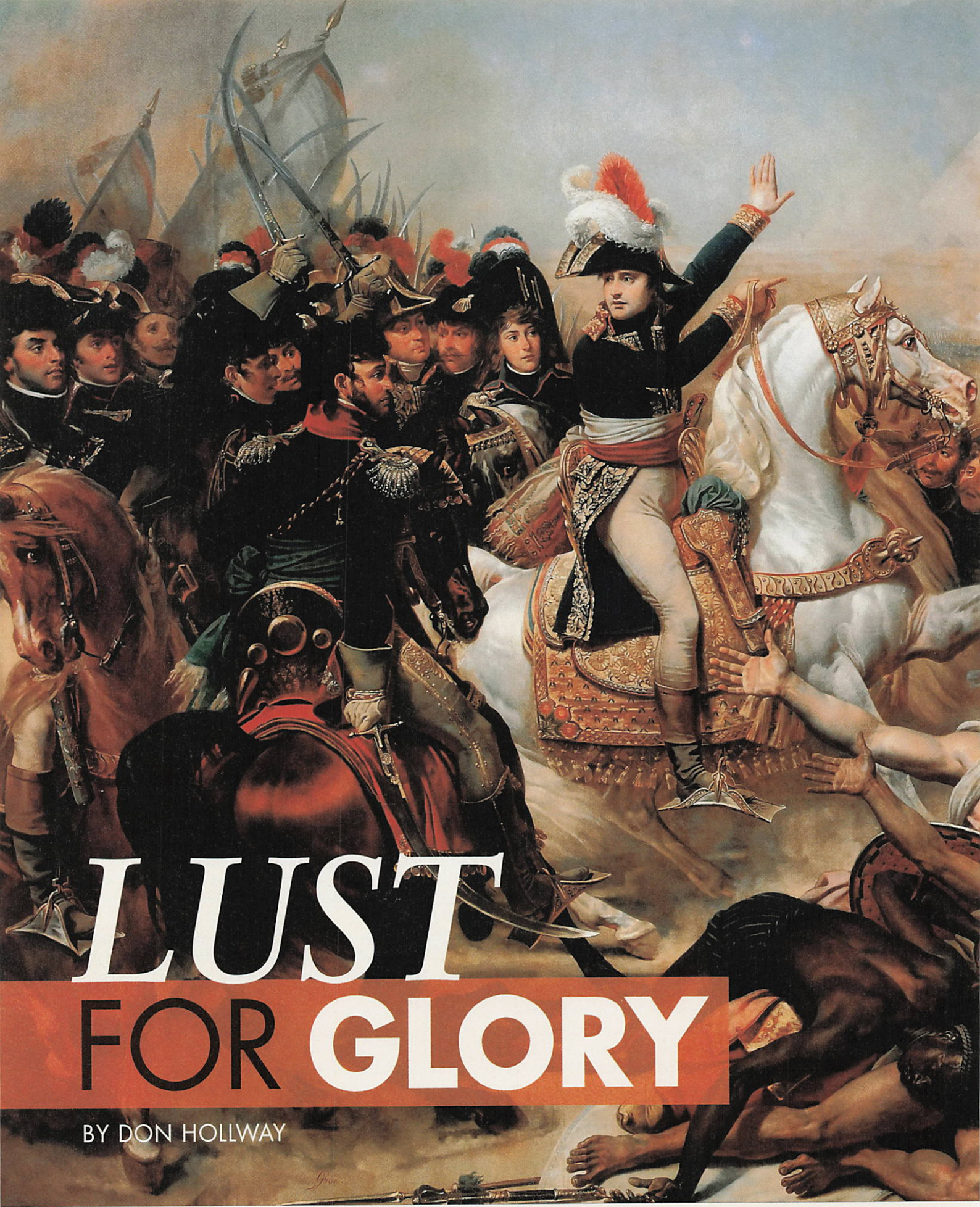
Skobelev returned to Russia, enjoying immense popularity and influence. His experiences in Romania and Bulgaria led him to become an outspoken proponent of Pan-Slavism, a movement aimed at unity of all Slavic people. During his postings after the war, he was increasingly concerned about the threat posed by the resurgent Germany. His rapid rise and his vocal criticism of the conduct of the last war, however, created jealousy and suspicion among some in the highest levels of government.

Skobelev died in Moscow on July 4, 1882, at the age of 39 under suspicious circumstances. Before arriving in Moscow, the general seemed brooding and troubled. He liquidated all of his assets and accumulated a large amount of cash. He was reputed to have given a packet of unknown documents to a friend. "I am afraid they will be stolen," he told his friend. "I have been under suspicion for some time." Skobelev had been openly critical of the policies of Czar Alexander II and after the czar was assassination in 1881, he earned the open enmity of the new czar, Alexander III.

Several days after his arrival in Moscow, Skobelev's body was found in brothel.

Heart attack was declared as the official cause of death. Conspiracy theories abound, and his death remains a mystery.

"Soldiers generally win battles; generals get credit for them," Napoleon Bonaparte said. Yet, the five commanders discussed here all deserved the credit they received. Each man was able to spot an opportunity, assess it, and act decisively. Whether faced with Teutonic knights, French grenadiers, or Asiatic tribesmen, they did their duty with unflinching bravery. □



LUST FOR GLORY

BY DON HOLLWAY

Wikimedia/Musee National du Chateau de Versailles

Napoleon Bonaparte's invasion of Egypt in the summer of 1798 served as a dress rehearsal for his subsequent conquest of Europe.

IN May 1798 English spies in Toulon, on the French Mediterranean coast, stood aghast at the gathering of an invasion fleet three times the size of the Spanish Armada: 13 ships of the line, 40 frigates and smaller warships, and 130 cargo vessels bearing more than 17,000 troops, 700 horses, and 1,000 cannons. Waiting at sea, three more convoys brought the fleet to nearly 400 ships with approximately 55,000 men. Their destination was secret, but the fleet was assembling just five years after bloody-handed French revolutionaries had beheaded their king and queen and defeated every royalist nation, including Spain, Holland, Prussia, Russia, and Austria. Thus, there could be little doubt that the fleet was sailing against England.

So vast was the fleet that eight hours were required for all the vessels to put out past the flagship, the 120-gun man-of-war *Orient*. Aboard it stood General Napoleon Bonaparte, the 29-year-old upstart whose victories in Italy had rattled crowns throughout Europe. Of all those men at sail, only he and a few dozen subordinates knew that the invasion force's true objective was not England, but Egypt.

The Directory then ruling France always desired to export its revolution across the English Channel, but as commander of France's Army of England, Bonaparte knew his military prowess on land was matched by the Royal Navy's at sea. "My glory has already disappeared," he complained to his secretary, Louis Antoine Fauvelet de Bourrienne. "This little Europe does not supply enough of it for me. I must seek it in the East, the fountain of glory. If the success of a descent on England appears doubtful, as I suspect it will, the army of England shall become the army of the East, and I will go to Egypt."

A year earlier Raymond de Verninac, the French minister plenipotentiary to the Ottoman Empire, had captivated Napoleon not only with descriptions of the land of the pharaohs but also the ease with which it might be seized. The Sublime Porte, the Turkish imperial government in Istanbul, a French ally since 1536, controlled it in name only, through a governor, the pasha. Two dozen

A romantic depiction of Bonaparte and his generals at the Battle of the Pyramids hangs in Versailles Palace.

Anne S.K. Brown Military Collection

French troops embark at Toulon. Bonaparte, shown at left, played a game of cat and mouse with Rear Admiral Sir Horatio Nelson's squadron of the British fleet in the Mediterranean Sea.

Mameluke beys, Europeans bought as slaves but raised to be free warriors, ruled as princes. Overthrowing them would merely be doing the Ottomans a favor, and Bonaparte saw no reason to bother Sultan Selim III for permission. "The Turkish Empire is crumbling," he told the Directory. "The day is not far off when we shall appreciate the necessity, in order to really destroy England, to seize Egypt."

Conquering the crossroads of the Middle East would restore to France the revenue and prestige lost with its own colonies in North America and the Caribbean, and simultaneously cut off England from its East India Company. The Directors no doubt also saw good reason to let their ambitious young general satisfy his thirst for power elsewhere. They consented to his expedition.

On May 10 Bonaparte arrived in Toulon. "Officers and soldiers," he told the troops, "I shall now lead you into a country where by your future deeds you will surpass even those that now are astonishing your admirers, and you will render to the Republic such services as she has a right to expect from an invincible army." He promised each man riches enough to buy six acres of land. Most of his cheering troops guessed that land would be in Naples, or Sicily, possibly England. Egypt, to them, was mostly Biblical legend.

Napoleon was religious only to the extent that it served his political purposes. To him, the legend of Egypt was that of Alexander, of pharaohs and Caesars, of Anthony and Cleopatra, of a lost civilization that had built monuments taller and more massive than any since attained by modern man. He had recently been elected as a member of the French Academy of Sciences and felt that the blood of the Revolution had not spoiled the lofty ideals of the Enlightenment. He planned not only a military conquest but also a scientific and archaeological expedition that would astound the salons of Paris. He enlisted Gaspard Monge of the Governmental Commission for the Research of Artistic and Scientific Objects in Conquered Countries to recruit interpreters, engineers, surveyors, cartographers, mathematicians, chemists, mineralogists, and zoologists. Altogether, 167 specialists sailed with the army.

The assembly of such a huge armada had not gone unreported in England, but its objective was still unknown. British Prime Minister William Pitt believed the French were targeting Ireland but could not be sure; England had withdrawn its Mediterranean fleet in 1796. Pitt hurriedly dispatched a squadron under one-eyed, one-armed Rear Admiral Sir Horatio Nelson from Cadiz, which the Royal Navy was blockading, to intercept Bonaparte, or at least find out where he was going. Delayed by a gale that dismasted his flagship, Nelson did not reach Toulon until May 27, only to learn the French had been gone for eight days. Guessing they were bound for Naples, he hurried after them.

Napoleon was neither in haste nor headed for Naples. He stopped first at Malta, the island state centrally positioned to control both halves of the Mediterranean. Two thirds of the Order of the Knights Hospitaller of St. John of Jerusalem were French, and many were sympathetic to the French Revolution. From June 6, when the first French ships arrived, it took three days for all 400 to gather. "Never had Malta seen such a numberless fleet in her waters," recalled an eyewitness. "The sea was covered for miles with ships of all sizes whose masts resembled a huge forest." After the Knights Hospitaller made a show of resistance, costing the French three men, Napoleon simply offered them pensions for life. On June 11 they signed the island over to France.

On June 20 the British squadron, having found no French in Naples, transited the Strait of Messina. A passing Genoese brig informed Nelson that Bonaparte's fleet had departed Malta heading east. Bonaparte's fleet was 160 miles ahead, but it could travel no faster than their slowest transport, which was about three knots. When one of his screening frigates informed him the British were on his trail and catching up, Napoleon took a look at his maps and ordered a change of course toward Crete. The French fleet sidestepped, and on the foggy night of June 22-23 the British passed it in the dark, so close that Vice Admiral François Paul de Brueys, on the deck of the *Orient,* could hear their signal guns. By morning, on divergent courses, the two fleets were over each other's horizons, and on June 27 the British reached Alexandria first. "It is impossible that the French should come to our country," the city commandant told them. "They have no business here, and we are not at war with them.... Water and victual your ships, if you have to, but go away. If the French really think of invading our country, as you pretend, we shall thwart their undertaking."

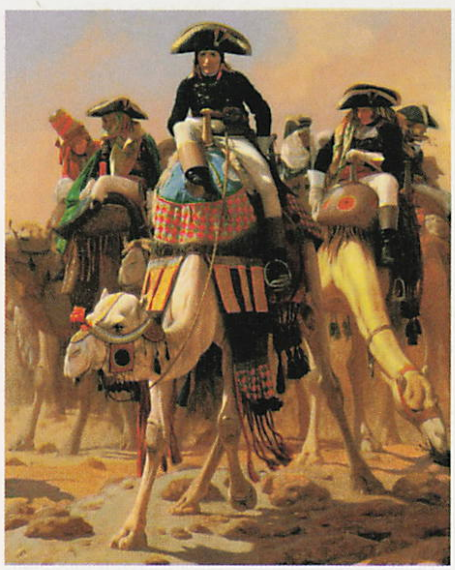
Believing Bonaparte must have headed for Crete or Turkey, Nelson sailed north in pursuit. Two hours after the last British ship vanished over the horizon, the lead French frigate, *Junon,* arrived from the west.

Upon sighting the land of the pharaohs, diplomat and artist Vivant Denon had been disappointed: "Not a single tree or habitation was visible. It wore the appearance, not of the melancholy of Nature, but of her destruction, of silence, and of death. The prospect, however, did not diminish the cheerfulness of the soldiers: one of them, pointing to the desert, said to another, 'There, look at the six acres that are decreed you!' raising a sarcastic laugh among his comrades."

"When I arrived before Alexandria, and when I learned that the English had passed by there with superior forces a few days before, I decided to land my troops, despite the horrible storm that was raging," reported Bonaparte. Alexandria's harbor was too small, shallow, and well defended to assault. The French landed at Marabut, a fishing village eight miles to the

west. In high seas, the operation lasted throughout the night. Men lowered themselves down into launches and longboats bobbing alongside the transports and battleships. Horses were hoisted overboard and made to swim. In the tossing waves it took some crews eight hours to row to the beach. Boats capsized, men drowned, but at 3 AM, still lacking artillery, mounts, and even water, Bonaparte had three divisions ashore and on the way to Alexandria. The gale dissipated, and when the sun came up it gave the French their first taste of the Sahara. "It was thirst which inspired our soldiers in the capture of Alexandria," wrote Lieutenant Louis Thurman after a five-hour march. "At the point the army had reached, we had no choice between finding water and perishing."

Without artillery, the city walls had to be breached the hard way. In the first five minutes, General Jean-Baptiste Kléber took a musket ball in the face and General Jacques-François Menou was wounded six times and thrown



from the ramparts. Though both survived, 300 Frenchmen were killed in the assault. "Our soldiers considered this attack to be child's play," wrote civilian outfitter François Bernoyer.

"The Turks had mounted a wretched gun upon a pile of stones: they loaded it without cartridges or shot, but with loose powder and stones, and fired it with a lighted brand," wrote General Anne Jean Marie Rene Savary. "We soon learned how perfectly ignorant they were of the science of artillery."

The defenders neglected to close a city gate. Once inside, the French troops took the fighting house to house. A sniper took a shot at Napoleon and hit his left boot, for which he was hunted down and killed. Defenders making a last stand in a mosque were slaughtered. Adju-

Anne S.K. Brown Military Collection

ABOVE: Mameluke commander Murad Bey bragged that his horsemen would carve up the French infantry. LEFT: Bonaparte and his staff journeyed across the sands of Egypt on camelback.

tant General Pierre François Joseph Boyer, himself wounded in the fighting, wrote, "Men and women, old and young, even children, all were massacred. After about four hours, the fury of our soldiers was spent at last." Approximately 800 Egyptians were killed or wounded. By 12 PM Alexandria was an outpost of France.

Bonaparte issued a proclamation, declaring in part, "Once you had great cities, large canals, a prosperous trade. What has destroyed all of this, if not the greed, the iniquity, and the tyranny of the Mamelukes? The French have shown at all times that they are the particular friends of the Ottoman Sultan and the enemy of his enemies. The Mamelukes, on the contrary, have always refused to obey him; they never follow his orders and follow only their whims. Happy, thrice happy are those Egyptians who side with us. But woe, woe to those who side with the Mamelukes and help them to make war on us."

In Cairo, Turkish governor Abu Bakr Pasha summoned the beys. Murad Bey, the Circassian Emir al-Hadj, de facto military commander, told him, "The French could not have come to this country without the consent of the Porte, and you, being its minister, must have had knowledge of their projects. Fate will help us against you and them."

Facing giant, blond-bearded Murad, who was said to be capable of beheading an ox with one slash of his scimitar, the pasha must have realized just how slight was his hold on Egypt. "Cast these thoughts from you," he told the beys, "be courageous and forthright, rise up like the brave men you are and prepare to fight and resist by force, leaving the outcome to God!"

Ibrahim Bey, the Sheik el-Beled, administrative head of the country, had heard, "The Infidels who come to fight you have fingernails one foot long, enormous mouths, and ferocious eyes. They are savages possessed by the Devil, and they go into battle linked together with chains."

Murad Bey headed north with 4,000 mounted Mamelukes, their retainers, the city militia, and sundry Bedouin cavalry and *fellahin*, peasant soldiers, about 20,000 in all. As he advanced up the west bank of the Nile, the Egyptian navy, a gunboat flotilla, moved alongside in support. Meanwhile, Ibrahim Bey and Abu Bakr Pasha assembled the rest of the army at Bulaq, Cairo's river port on the east bank.

In Alexandria, Captain Jean-Baptiste Perree loaded three gunboats, a galley, and an Arab xebec renamed *Le Cerf* with ammunition, provisions, and civilians including Secretary Bourienne and sci-

AKG Images

Mameluke cavalry charges French infantry squares. The Mamelukes bravery was no match for Napoleon's deadly artillery.

entist Monge. They set off up the Nile as a riverine fleet in support of the advance to Cairo with a division marching alongside. In the interim, General Louis Charles Antoine Desaix took four divisions out along the dry bed of the Alexandria-Nile Canal, about 45 miles, across the Sahara, in July. "Unless the entire army crosses the desert with lightning speed, it will perish," he wrote.

"The army left Alexandria on the night of the very day of the capture of that city," wrote Savary. "Our march was across a white surface of country, which cracked like snow under our feet; on tasting, it proved to be salt."

"Ordinarily, that plain is irrigated by the flooding of the Nile," wrote Bonaparte. "We were at the time when the Nile is at its lowest level. All the cisterns were dry, and no water could be found." Towns along the way amounted to nothing more than abandoned mud huts and dry wells. As soon as the sun came up, men began tossing aside their woolen clothing and even their biscuit rations, inedible without water.

Any stragglers fell victim to Bedouin tribesmen. "These enemies were so skillful and so well aided by their horses, known to be the best in the world, that they swooped down on our troops, seizing a man from the ranks, lifting him up and disappearing in a flash," wrote General Balthazard Grandjean,

"Pity the unfortunates who fell into their hands," wrote General Charles Antoine Morand. "They stripped them, and before killing them would appease their abominable passions on them."

Yet the Bedouin were but a minor nuisance. "General Desaix has received intelligence that Murad Bey is on his march and, at this moment, perhaps at only two days' distance from us," wrote General Jean Louis Ebenezer Reynier." On July 10 a scout force of 300 Mameluke horsemen had to be driven off with cannon fire.

The next day the French divisions assembled at El Rahmaniya on the banks of the Nile. Men fell gratefully into the water and gorged themselves in fields of watermelon with predictable effect. As a result, nearly all suffered from diarrhea.

Murad Bey, meanwhile, arrived at the village of Shubra Khit, about eight miles to the south. Bonaparte knew the best way for his troops to forget their suffering was to give them a victory. Overnight he marched them upriver, and on the morning of Friday, July 13, they stood ready for battle.

"At sunrise martial music suddenly rang out; the Commander in Chief had ordered the playing of 'La Marseillaise,'" wrote Lieutenant Jean-Baptiste Vertray of Reynier's division."A column of Mamelukes came out of the palm trees to the army's left and made a semicircle as if to envelop us."

The Egyptians made a fearsome sight. Lieutenant Nicolas Philibert Desvernois never forgot it. "In the background, the desert under the blue sky; before us, the beautiful Arabian horses, richly harnessed, snorting, neighing, prancing gracefully and lightly under their martial riders, who are covered with dazzling arms, inlaid with gold and precious stones," he wrote. The Mamelukes, though, may not have achieved their intended effect. "This spectacle produced a vivid impression on our soldiers by its novelty and richness," noted Desvernois. "From that moment on, their thoughts were set on booty."

Ever the student of warfare, Bonaparte had read of the infantry squares used by the Austrians and Russians in their wars with the Ottomans a decade earlier. His French squares were in fact hollow rectangles, 300 yards across, 50 yards deep, with nine cannons at each corner for overlapping fields of fire. Captain Jean-Pierre Doguereau remembered, "Our squares were formed; the artillery on the corners and in the intervals; the cavalry and the baggage in the centre. This formation, which presented them [the Mamelukes] with masses of men and firepower on all sides, stunned them."

Upon learning the French had almost no cavalry, Murad Bey had laughed and bragged that his horsemen would cut through them like watermelons. Each Mameluke fought in the ancient manner. "Somehow attached to his horse, which appeared to share all his possessions," wrote a French colonel, "with the sabre hung from the wrist, he fired his carbine, his blunderbuss, his four pistols and after having discharged his six firearms, flanked the platoon of tirailleurs passing between them and the line with a marvelous dexterity. However, we soon recognized that these men, individually of an unmatchable bravery, had no idea of combined movements or mass charges."

All morning the Egyptian horse circled the French squares, seeking entry and finding none. "A few of the bravest, without doubt to encourage the others, charged our tirailleurs," wrote Doguereau. "Death was the price they paid for their audacity."

Out on the water, however, it was another story. Perree's five ships met seven Egyptian gunboats, expertly manned by Greek sailors, supported by cannons in Shubra Khit and musketry from both sides of the river. Lieutenant Laval Grandjean of the naval contingent recalled, "The Mamelukes, Arabs and peasants ran out in a crowd, swarming towards us with hideous cries, some began hauling their boats down from the bank, others threw themselves into the water, all coming to attack us on board."

By the time Bonaparte considered the land battle won and ordered his divisions to the riverbank in support, Perree's galley and two of his gunboats were already lost. "Already several ships had been boarded by the Turks," reported Bourienne. "Their crews were being massacred under our eyes with barbaric ferocity, and the captors displayed their heads to us holding them by their hair."

The survivors, including several scientists, scrambled aboard *Le Cerf*. Monge helped to reload its guns. The two fleets fired more than 1,500 rounds. The Egyptian flagship caught fire and, when the flames reached its powder magazine, detonated. "The explosion made men fly up in the air like birds," wrote Arab chronicler Nikula ibn Yusuf, al-Turki (Nicholas the Turk).

The sight caused the French to burst into laughter and took the fight out of the Egyptians. Their fleet turned back upriver. The Mamelukes ashore withdrew, leaving behind 600 dead. The French army suffered not one casualty. Its little navy, however, lost 70 men. "Twenty of my men were wounded, and several killed," reported Perree. "I lost my sword and a little bit of my left arm." Bonaparte promoted him to rear admiral.

Upstream the river was so shallow that the flotilla could go no farther and so winding that to follow it would have added days to the march. The French left its banks and paralleled its general course through the desert, over and across dried-up irrigation canals. Quartermaster Sergeant Charles François remembered, "Men were dying, suffocated by the heat. It felt like passing in front of a very hot oven. Several soldiers committed suicide." Sunstruck, starving, dysenteric, it took them a week to reach the fork of the Nile, north of Cairo, where a spy informed Bonaparte that the Mamelukes awaited him on both sides of the river. Ibrahim Bey was still at Bulaq, north of the city on the far bank, with most of the able-bodied men of the city manning barricades and cannons. On the French side, Murad Bey had fortified the village of Embabeh.

For Napoleon this was a gift from Allah. If Murad had withdrawn across the Nile it would have compelled the French to make a riverine assault under fire. Instead, Bonaparte had the luxury of fighting Murad first and Ibrahim at his leisure. Murad's and Bonaparte's forces were well matched, the French at 25,000 and the Egyptians at 6,000 mounted Mamelukes with perhaps 15,000 infantry. The French were on their last legs from heat and hunger; their square formations meant that, for most of the battle, only their forward-facing elements would be engaged at any one time. The Egyptians were fresh, well mounted, fighting from prepared positions, and could bring all their numbers to bear at once.

At 2 AM on Saturday, July 21, the French set out. Driving enemy advance scouts before them, they arrived 12 hours later, during the hottest part of the day, on a watermelon field north of Embabeh. In the distance glittered the minarets of more than 300 mosques in Cairo, then a city of 500,000 people that was larger than Paris, and in the Ottoman Empire, second only to Istanbul. Rising into the sun even farther south were the crests of the Pyramids at Giza, though in 1798 they were half-buried in sand. But Napoleon certainly knew that, on some of the most historic ground known to man, he was about to make history again. He is famously said to have told his men, "Soldiers! From the heights of these pyramids, forty centuries are looking down on you," but in reality his troops were spread out across several miles, and few could have heard. Even fewer knew what the Pyramids were or had the slightest idea what he was talking about. Adjutant-Major Lieutenant Pierre Pelleport did hear, but scoffed, "It was Greek to most of our comrades."

"The squares were halted between two villages surrounded by gardens that guarded their flanks and hid the Mamelukes," recalled Morand. The entrenched Egyptian line blocked the way, its right flank anchored in Embabeh and its left in the village of Biktil. "The majority rallied beneath the walls of a garden not far from our right-wing Divisions," wrote Morand.

Bonaparte wanted this to be his last battle in Egypt. "I ordered the divisions of generals Desaix and Reynier to take up a position on the right, between Giza and Imbaba [sic], in such a manner as to cut off the enemy from communication with Upper Egypt, which was his natural retreat."

If the two divisions got behind them, the Mamelukes would be trapped against the river. But since Shubra Khit, Murad Bey had had time to reconsider his tactics. There were only two ways the French square could be defeated: before it formed or by pounding it to pieces with artillery. To this purpose he had hidden most of his cavalry in Biktil and 40 guns in Embabeh. The decision of which to employ first was made for him by the advance of the French right. Marching into and out of dried-up irrigation canals and through thickets of palm trees, the squares became disorganized. Murad saw his chance.

"We first saw three Mamelukes, who came to reconnoitre the Division," remembered Morand. "It appears that after they reported back, they decided to charge."

With no more warning than that, at about 3:30 PM the Mameluke cavalry on the Egyptian left burst out of Biktil upon Desaix and Reynier. "Only a few officers and the generals saw the movement of the Mamelukes, which was so rapid that there was only just time to fire," recalled Morand.

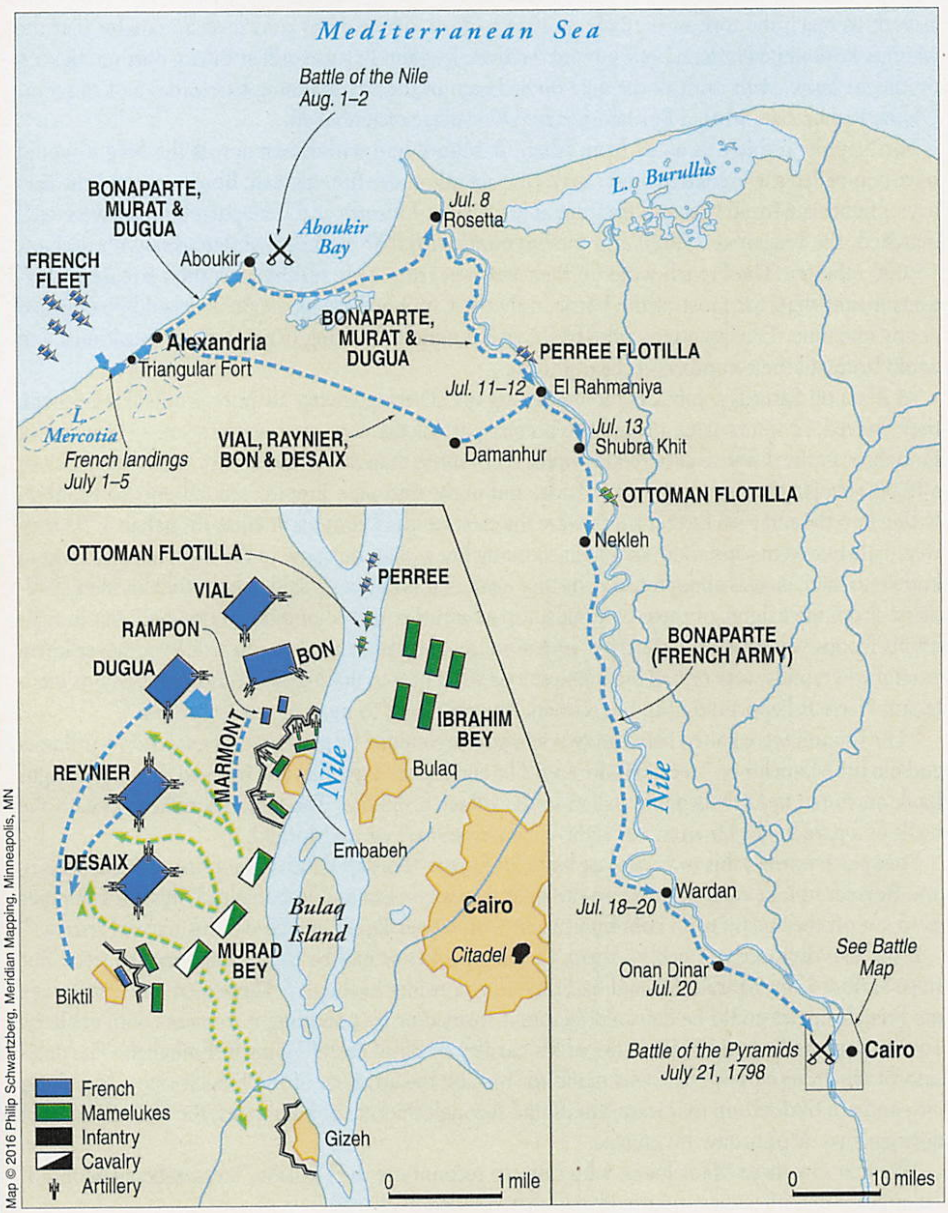
"General Reynier gave the order, 'Form your ranks,'" recalled Vertray. "In the blink of an eye, we were arranged in a square six men deep, ready to withstand the shock. This movement was executed with a precision and coolness under fire that was truly remarkable."

Civilian Bernoyer saw no such thing. "There was great confusion around me," he wrote. "Our general was in such a stupor that he found himself incapable of making a decision. A Dragoon [mounted infantry] captain took the initiative to rally us."

"General Bonaparte did not want us to be engaged against that redoubtable cavalry," admitted one of the cavalry officers, "believing that the number of mounted dragoons was too weak for them to receive a Mameluke charge in line. This caution, perhaps justified, caused utter mortification among the cavalrymen who were wholeheartedly looking forward to the moment when they could measure their blades against the Muslim scimitars."

With the cavalry protected in their hollow centers, the French squares locked down in position, presenting a hedge of bayonet points, musket barrels, and cannon muzzles to the oncoming Egyptians, and not a moment too soon. "The last stragglers were not yet in their ranks when the line began firing on the Mamelukes, who were 200 paces away," wrote Savary.

The route of the French army in its advance on Cairo during the conquest of Lower Egypt. INSET: Bonaparte's divisions easily repulsed the Mameluke charges often catching the enemy in a deadly crossfire.



Map © 2016 Philip Schwartzberg, Meridian Mapping, Minneapolis, MN

"We let them approach within 50 feet and then greeted them with a hail of balls and grapeshot that caused a large number of them to fall on the field of battle," wrote Bonaparte.

In Reynier's division, Vertray remembered the sight of the screaming Egyptians thundering down on his position. "The soldiers fired with such coolness that not a single cartridge was wasted, waiting until the very instant when the horsemen were about to break our square."

"We finally saw those terrible horsemen face to face, whose scimitars could reputedly cut a man in half," wrote a French dragoon. "With savage cries they threw themselves on our Divisional squares, but all their impetus was broken on our grenadier's bayonets."

"A good number fell into our ranks where, in their impotent rage, they fought for their lives with their daggers," wrote Morand.

"It was imperative for troops such as us to resist these fearsome charges by the enemy. Our brigade was at this time composed almost exclusively of battle-hardened warriors accustomed to victory; besides, we knew that it was all or nothing," recalled Vertray.

Reynier was extremely proud of his division. In the face of such fire, the Egyptians could be excused for thinking the enemy surely had massed all their guns to the front. They rode around the sides of the squares, seeking an unprotected rear. Indeed, some of the unemployed French back there had taken the opportunity to leave ranks for more pressing needs.

"When the Mamelukes were passing through the interval between the two Divisions, they found themselves pell-mell with a large number of our soldiers, who were looking for water in the surrounding gardens and were returning after hearing the gunfire," wrote Morand. "This forced us to cease firing or at least reduce it and to aim very high."

Still, the Egyptians between Desaix and Reynier found themselves in a killing ground. They had advanced into the gap between the two divisions and received heavy fire that decimated their ranks.

"Caught in the crossfire from two Divisions, they fell into the interval where the cannon were placed," remembered Morand. "In the crossfire, they could not escape, except through a narrow gap, guarded by a detachment of carabiniers waiting in ambush, who shot them at point-blank range."

Across the river, Somali cleric and chronicler

Abd al-Rahman al-Jabarti could hear the near-constant popping of French muskets and cannons, like "a cauldron boiling on a crackling fire." Most of the citizenry had come out with Ibrahim Bey to see the foreigners defeated. "The eastern army, seeing the battle in progress, began to scream at the top of their voices ... as if that were enough to be victorious," he wrote.

"The number of corpses which lay all around us was soon considerable," recalled Vertray, who recorded a curiosity of the battle noted in many other French accounts. "The clothes of the dead and wounded Mamelukes burned like tinderwood ... the flaming wads from our rifles penetrated their exotic uniforms, which floated in the air like gauze embroidered with gold and silver ... they all wore chiffon chemises and cloaks of silk, with their weapons encrusted with ivory and finely cut gemstones."

With the Egyptian left spent, Bonaparte determined to crush its right. He therefore ordered General Louis Andre Bon's division, which was by the Nile, to launch an attack on the portion of the enemy that was entrenched.

As Bon advanced on Embabeh, his square began taking fire from the cannons emplaced among the buildings. From the far side of the river, Ibrahim Bey ordered his guns to add to the bombardment. "The entrenched artillery opened fire, supported by boats on the Nile," remembered Doguereau. "We were momentarily stunned. This fire was very murderous on a corps formed so deep; files of five or six men were cut down."

With heavy cannonballs slashing through their ranks, the French squares threatened to come apart. As on the left, on the right Egyptian horsemen rode out to exploit the opening. "They threw themselves forward in a mad charge. Our order was not to move," remembered François. "We hardly breathed; brigade commander [Auguste de] Marmont had ordered us not to fire until he gave the command. The Mamelukes were almost upon us. The order was finally given, and it was real carnage."

The slaughter of horses and riders on the French right was repeated on its left. "The sabers of the enemy cavalry met the bayonets of our first rank," recalled François. "It was an unbelievable chaos: horses and cavalrymen falling on us, some of us falling back.... I was by the flag and I saw right beside me Mamelukes, wounded, in a heap, burning, trying with their sabers to slash the legs of our soldiers in the front rank.... I have never seen men braver and more determined."

Bravery and determination, though, counted for nothing against powder and steel. "Bon's

National Maritime Museum

The French garrison in Alexandria heard the explosion of the French flagship *L'Orient* 20 miles away on the night of August 1. Rear Admiral Sir Horatio Nelson's destruction of the French fleet in Aboukir Bay left Bonaparte's army stranded in Egypt.

Division doubled the pace; the charge was beaten," wrote Doguereau.

With the Egyptian cavalry again broken on its squares, the French infantry resumed the assault. "We quickly marched forwards at the pas de charge to close with the enemy and assault the trenches," he wrote.

If the Mameluke horse was no match for the French foot, the Egyptian fellahin militia had no choice. They were merely simple peasants armed with nothing more than clubs. Massed French bayonets soon cleared the trenches of the enemy. "At point-blank range we fired at the Mamelukes as they were fleeing from the entrenchments on all sides," Doguereau wrote.

"A large number of emirs and soldiers from the forces on the Cairo bank of the river decided to cross the river to aid their fellows on the other shore," wrote al-Jabarti. "Amongst these was Ibrahim Bey himself. There was a great confusion amongst the men because there were only a few rowing boats."

At last came the moment for the French horsemen to finish the job. "Our cavalrymen positioned inside the square fired along with the infantrymen," wrote a French dragoon officer, "until the moment when, weary of their fruitless attacks, Murad's Mamelukes turned tail and followed their fleeing commander into the desert. We were then permitted to pursue the vanquished, of whom we were able to sabre only a very small number, for they were mounted on admirable horses, whose speed thwarted our efforts."

But some of the Egyptian horsemen still sought single combat. "A distinguished Mameluke bey with a fine long beard paraded himself before the front line of Bon's division," wrote Lieutenant Desvernois. "At the sight of this insolent enemy I was overcome with anger and bringing my magnificent Arab steed to the gallop I broke out like lightning from the ranks of our divisional square and joined battle with this audacious bey. Bullets rained around us, but we did not heed them. With a pistol shot I knocked him from his saddle. He fell from his mount and approached me on hands and knees."

Desvernois motioned for the Mameluke bey to march himself into captivity, but his offer of mercy was misplaced. Far from trying to hold the Frenchman off, the Mameluke was trying to get close enough to cut his mount's legs from under it. He leaped up under the horse's neck, grabbed the reins, and slashed at the Frenchman. The horse, rearing, took the blow on its head. Desvernois had no other choice but to strike him over the head repeatedly in order to kill him. When the Mameluke's turban came off, it was found to have 500 gold coins sewn inside, according to Desvernois.

Meanwhile, the French infantry poured through the dirt streets of Embabeh and Biktil. "We arrived in their camp with our bayonets lowered," recalled Laval Grandjean, now fighting ashore. "We bore down on them with the bayonet and the majority found no means of escaping death except by throwing themselves into the Nile and swimming."

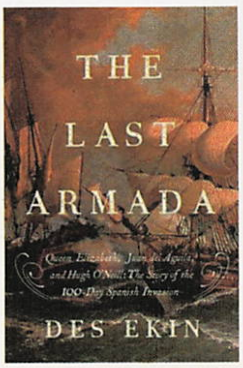
"We cut off a group of the enemy so that they had to throw themselves in the Nile where many of them drowned and those that we reached were bayoneted," wrote Private Pierre Millet.

Approximately 1,500 Egyptians, seeing no escape to the water, made a stand in a trench. They were cut down to the last man. "The carnage was atrocious," remembered Millet. "The corpses

Continued on page 66

By Christopher Miskimon

The Siege of Kinsale marked the last attempt by a Spanish armada to conquer England through Ireland.



In September 1601, 13 years after the first Armada, a Spanish fleet arrived in the Irish port of Kinsale to support Irish rebels fighting England.

THE LATE MORNING SKY ABOVE THE BESIEGED IRISH TOWN OF Kinsale was full of storm and rage on December 24, 1601. Inside the town were the Spanish, huddled in ruins, the municipality shot to pieces by British cannons. They were tired, sick, and hungry but still willing to fight. Surrounding them was a British army that outnumbered them yet was also deprived of food and plagued by illness. Outside the siege lines was an Irish force, allied with the Spanish. Their plan was to occupy a strong defensive position on a hill near the town. When the British moved to attack them, the Spanish would sally forth from Kinsale and hit them when their backs were turned. In this way, they might draw victory from what was an increasingly desperate situation.

The Irish commander got his men atop the hill after a long and tiring march. They set their pikes and kept their slow matches lit, awaiting the English onslaught. The poor weather, however, complicated the situation. Fog and rain kept the Spanish from seeing the Irish in position and so they did not move. The Irish commander made a bad decision to withdraw his men to another location. This gave the English what they wanted, which was an Irish army exposed on the move in open ground. Their infantry and cavalry advanced toward the Irish, seizing two key fords over an intervening stream.

Realizing the English would soon catch them, the Irish formed for battle, again setting their pikes and preparing to fire arquebus volleys at their enemies. The English cavalry charged, testing to see if the Irish would break and run. They did not. They stood firm and waited for man and horse to impale themselves on the blades of their pikes. But the British cavalry were veterans, and drew on their experience to wheel away in the nick of time. Then, the lighter Irish cavalry moved forward against the English. It was a brave display, but it would prove their undoing. A volley from the British infantry crashed into both Irishmen and their mounts, tearing holes in their ranks. This caused them to turn and retreat toward their own infantry. The Irish foot opened their ranks to let the aristocratic cavalrymen through, ruining the tightly packed formation.

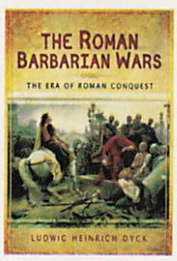
This was the critical moment. The British advanced again, and this time Irish infantry followed their horsemen and retreated as well. Within moments the retreat devolved into a route with the English troops cutting down their enemy as they ran. The Irish suffered approximately 1,800 casualties. A small number of Spaniards were with the Irish and their standards were all captured. Finally, around noon, the Spanish in Kinsale decided to advance after hearing gunfire. What they saw

shocked them. The British lines were full of troops, taunting them by displaying the captured Spanish flags. The gunfire was celebratory; the intervening hills had kept the noise of battle from their ears. The Irish-Spanish effort to win Ireland for Spain was over.

The Spanish Armada of 1588 is by far the most famous attempt by Spain to conquer the British Isles, but it was not the last. For decades afterward they tried to take England, including several attempts to do so through Ireland. Most Irish disliked the British and made common cause with Spain to defeat them. Their last real effort came in 1601 with the fateful landing at Kinsale. This story is little known outside Ireland, but is now receiving the attention it deserves in *The Last Armada: Queen Elizabeth, Juan Del Aguila and Hugh O'Neill: The Story of the 100-Day Spanish Invasion* (Des Ekin, Pegasus Books, New York, 2016, 424 pp., maps, illustrations, notes, bibliography, $27.95, hardcover).

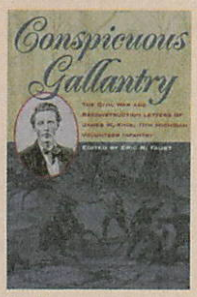
The tale of this campaign is told through the experiences of the major players. English commander Charles Blount needed a victory to erase suspicion against him of plotting against Queen Elizabeth. Spanish General Juan Del Aguila led the invasion. He had been unjustly imprisoned, and upon his release felt the need to redeem himself for the shadow his imprisonment had cast over his career. Irish commander Hugh O'Neill wanted to drive the English out of his country, and saw this as his last chance. All three commanders had to fight on despite privation and a lack of provisions from their governments or supporters. It is a tale of endurance as much as warfare and political machination.

The author does a splendid job relaying this campaign's details to the reader. Books about this period can be difficult to follow for those not familiar with the political, religious, and social intricacies of the time, but Ekin's writing is so clear and straightforward that every detail is vibrantly candid and easily understood. The cast of characters is never blurred and the backstories of each major participant are woven into the narrative, providing a well-rounded view of the action. This history of Spain's last invasion of England is as entertaining as it is informative.



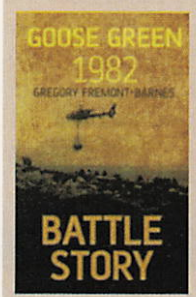
The Roman Barbarian Wars: The Era of Roman Conquest (Ludwig Dyck, Casemate Publishers, Havertown, PA, 2016, 240 pp., maps, illustrations, notes, bibliography, index, $34.95, hardcover)

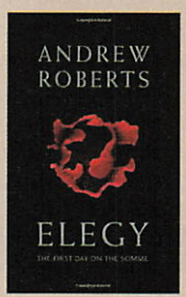
SHORT BURSTS



Conspicuous Gallantry: The Civil War and Reconstruction Letters of James W. King, 11th Michigan Volunteer Infantry (Edited by Eric R. Faust, Kent State University Press, $45.00, hardcover) The author served in the western theater battles of Stones River, Chickamauga. and Missionary Ridge along with postwar reconstruction duty. This book collects his letters into a narrative of his experiences.

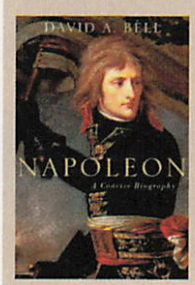
Zinky Boys: Soviet Voices from the Afghanistan War (Svetlana Alexievich, W.W. Norton, 2016, $15.95, softcover) A look at the Afghanistan War through the eyes of the soldiers who fought there and the families who waited at home.





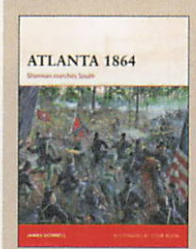
Elegy: The First Day on the Somme (Andrew Roberts, Head of Zeus Ltd, 2015, $29.95, hardcover) The first day of the Battle of the Somme in 1916 produced 69,000 casualties, of which approximately 57,000 were from the British Fourth Army. This book covers that horrific first day from a variety of angles.

Goose Green 1982 (Gregory Fremont-Barnes, Dundurn Books, 2016, $14.99, softcover) Goose Green was the first major battle of the Falklands War. A force of British paratroopers doggedly fought their way to victory against dug-in Argentine soldiers.



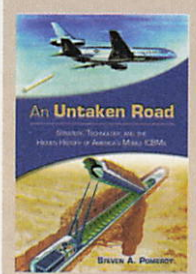
Napoleon: A Concise Biography (David A. Bell, Oxford University Press, 2016, $18.95, hardcover) This book summarizes Napoleon's singular career and places his life in context with the French Revolution and the world he lived in.

The Longest Kill: The Story of Maverick 41, One of the World's Greatest Snipers (Sgt. Craig Harrison, St. Martin's Press, 2016, $26.99, hardcover) The author holds the record for the longest confirmed sniper kill at 2,475 meters. This is the story of his service and the aftermath.



Atlanta 1864: Sherman Marches South (James Donnell, Osprey Publishing, 2016, $24.00, softcover) Sherman's march through Georgia was a dagger in the heart of the Confederacy. This book covers the entire campaign.

M48 Patton vs Centurion: Indo-Pakistani War 1965 (David R. Higgins, Osprey Publishing, 2016, $18.95, softcover) The 1965 war between India and Pakistan saw some of the largest tank battles since World War II. The Indians used the British Centurion tank, and the Pakistanis relied on the U.S.-built M48 Patton Tank.

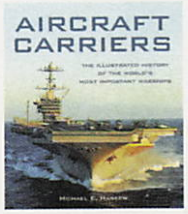


An Untaken Road: Strategy, Technology and the Hidden History of America's Mobile ICBMs (Steven A. Pomeroy, Naval Institute Press, 2016, $44.95, hardcover) Plans to field mobile ballistic missiles went on for decades, but they never came to fruition. Even so, these plans shaped American strategy and policy.

Heroes Beneath the Waves: Submarine Stories of the Twentieth Century (Mary Nida Smith, Skyhorse Publishing, 2016, $14.99, softcover) A collection of American submariner's military experiences. Each tells the tale of a different boat during World War II through the Cold War.

The story of Rome is often characterized through its struggles against the barbarian tribes of Europe, such as the Gauls, Germans, and Iberians. Although there is much more to Rome's story, these tales of barbarian conquest stand out due to their drama and ferocity. The so-called barbarians were capable opponents even to the well-organized Romans, belying their actual level of civilization. Rome's legions did not venture forth without risk, despite the end result being the expansion of its empire.

Each chapter of this book covers a different tribe, personality, or campaign. The author goes into great detail on each topic. His vivid prose makes for a gripping read. The reader can savor the chapters in a stand-alone fashion because of the way they cover different topics. On the whole, however, the book delivers on its promise to give the reader the big picture view of the conflicts between Rome and its barbarian foes.



Aircraft Carriers: The Illustrated History of the World's Most Important Warships (Michael E. Haskew, Zenith Press, Minneapolis, MN, 2016, 239 pp., maps, notes, index, $40.00, hardcover)

The aircraft carrier has been the capital ship of the past 75 years. They went through a humble beginning during World War I, when the few in existence carried but a handful of fragile biplanes capable of dropping a few small bombs. It was a beginning, however, and within a generation the aircraft carrier had grown into a major warship in its own right, able to tote dozens of fighters, dive bombers, and torpedo planes and launch them into sprawling sea battles. For the first time fleets fought battles in which the opposing side's ships never saw each other. The United States took the lead in this new type of warfare, building over 100 carriers during World War II. By the end of that conflict the U.S. Navy had perfected the ability to coordinate large strikes against enemy ships or targets on land.

After the war the aircraft carrier continued its primacy, providing air power wherever it was needed across the globe by those nation fortunate enough to afford them. Korea, Vietnam, Falkland Islands, and the wars in the Middle East have all seen carrier battle groups offshore, projecting combat power inland and dominating the skies. Modern aircraft carriers are virtual floating cities, carrying thousands of sailors and able to stay at sea for extended periods without replenishment. Even the appearance of a carrier battle group is enough to give pause to a would-be opponent.

The history of the aircraft carrier is a big subject and this book is equal to its task. The ships along with their development, tactics, and aircraft are all covered in detail. Significant facets of carrier operations are given specific coverage in well-placed sidebars. If the reader wants to know how a carrier air wing is organized or

simulation gaming *By Joseph Luster*

EXPLORING TWO VERY DIFFERENT TAKES ON WORLD WAR I WITH BATTLEFIELD 1 AND THE SCIENCE FICTION-TINGED TALES FROM THE VOID.

PUBLISHER EA
GENRE SHOOTER
SYSTEM(S) PLAYSTATION 4, XBOX ONE, PC
AVAILABLE OCTOBER 21

BATTLEFIELD 1

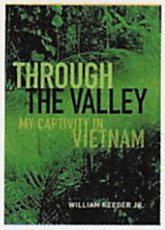
EA is trying something different with the *Battlefield* series, and oddly enough that involves dialing events back further than ever before. While *Call of Duty: Infinite Warfare* expands into full-on space combat, *Battlefield 1* is looking to take players to World War I later this year. Amazingly, at this point going back in time again actually seems like a novel concept, and while the technology used may be significantly more dated than recent entries, expect *Battlefield 1* to maintain the same kind of action that's made the series a hit in the realm of online warfare.

Battlefield 1 will feature 64-player battles and an assortment of weapons that highlight the variety and ingenuity found in the trenches. Weapon categories include Shotguns, SMGs, LMGs, Semi Autos, Sidearms, and Sniper Rifles, all of which will be customizable in a more focused manner. There will also be plenty of melee weapons, some of which will be usable as tools to cut barbed wire, demolish barricades, and deliver damage to light vehicles. Bayonet charges close the gap between players and their enemies, which is doubly beneficial for those going for melee kills. Anyone unclear on just how effective the weapons of World War I were will be treated to a second-hand approximation that hinges on realism while maintaining the bombastic flavor for which the series is known.

DICE is also throwing in a number of Class options, from Assault to Pilots and Tankers. While the latter is self-explanatory—allowing players to hop into planes and tanks in a more specialized manner—the rest of the classes all have their own unique quirks. Those who choose Assault can look forward to close-quarters combat, which is perfect for taking down rumbling tanks with a well-placed explosive charge. The Support class is great for suppressing enemies and making them stay in one place, and Medics have mastered the art of keeping teammates healthy and repairing vehicles. Finally, the Scout class is all about providing reconnaissance to their team, calling out enemy locations, and taking them out from afar with powerful sniper rifles.

As for modes, the options available in *Battlefield 1* should be familiar to long-time fans of the series. Conquest is the classic fan-favorite, with 64 players battling for control of key objectives. Domination takes this concept and puts it in close quarters, with fast-paced, infantry-centric combat revolving around strategic objectives. The

what the colors of the jerseys worn by the flight deck crew mean, it can be found within this book. Zenith Press is known for its excellent illustrations in such works, and the book contains stunning photographs to accompany the text. The result is a book which is both entertaining to read and pleasing to the eye.

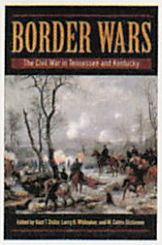


Through the Valley: My Captivity in Vietnam (William Reeder Jr., Naval Institute Press, Annapolis, MD, 2016, 264 pp., maps, photographs, appendix, notes, index, $29.95, hardcover)

William Reeder was an Army aviator in Vietnam. During his first tour he piloted an OV-1 Mohawk airplane, flying classified missions over North Vietnam, Laos, and Cambodia. In 1971 he returned for a second tour of duty, this time as an attack helicopter pilot in an AH-1 Cobra. The Americans were in the process of Vietnamization, preparing to turn the defense of South Vietnam over to its indigenous armed forces. At the time it seemed everything was on track to meet that goal.

Less than a year into his tour Reeder was supporting the Special Forces base at Ben Het near Khe Sanh. During one mission his helicopter was downed, but he survived the crash. Reeder managed to avoid the pursuing enemy for three days but eventually his luck ran out and he was taken prisoner. The North Vietnamese kept him caged for weeks, after which he was marched north along the Ho Chi Minh Trail. During the arduous trek, seven of the 27 prisoners died. Arriving at Hanoi, his ordeal only worsened as he endured additional mistreatment by his captors.

The way that he and his fellow prisoners maintained their dignity and courage under horrendous circumstances is inspiring. The well-written autobiography is a stirring look at the trials of a prisoner of war in North Vietnam.



Border Wars: The Civil War in Tennessee and Kentucky (Edited by Kent T. Dollar, Larry H. Whiteaker and W. Calvin Dickson, Kent State University Press, Kent, OH, 2015, 310 pp., maps, illustrations, notes, index, $39.95, hardcover)

The states of Kentucky and Tennessee shared much in common but went separate ways with the outbreak of the American Civil War. Tennessee seceded while Kentucky stayed within the Union. These were prosperous states which contained resources both sides needed but which were perhaps more vital to the Confederacy. Control of these regions would also determine whether the rest of the fighting would happen in Northern or Southern territory. It was inevitable the two states would become the scene for heavy fighting. As events unfolded, this fighting would not only occur between the

newcomer to all of this is Operations mode, which lets players fight on an entire front of the war. Attackers will attempt to push the frontline forward while defenders aim to push them back in a series of interconnected battles. Should one group fail in their objective, they will simply regroup on a different map and attempt to hold their ground there.

At this point *Battlefield 1* isn't too far from release. EA has promised quite a bit with this one, and at an early glance it certainly seems to deliver the kind of large-scale combat the series is known for with a WWI twist. We'll be sure to dive in fully once *Battlefield 1* hits consoles and PC this October.

PUBLISHER
BLACK DOG

GENRE
STRATEGY

SYSTEM(S)
PC

AVAILABLE
NOW

Tales from the Void

You may be familiar with the story of the HMS *E18,* an E-class submarine that the Royal Navy launched in 1915. Sadly, the vessel was lost in the Baltic Sea in May 1916 and the wreckage was recovered in 2009. While there are numerous conditions that may have contributed to her patrol coming to an abrupt end, an air of mystery still surrounds the event. That's where *Tales from the Void* comes into play. Developed by PortaPlay, Tales bills itself as an "atmospheric real-time tactics game inspired by early 20th century sci-fi adventure stories." The story explores what may have happened to the crew of the HMS *E18.* What mysteries awaited them in the deep unknown, and can they survive long enough to find their way back home?

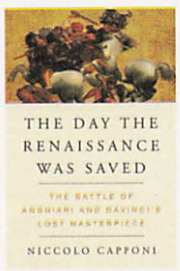
As it turns out, *Tales from the Void* knows exactly what happened. While on a top secret mission to obliterate the Germans and win the war, a misfired secret weapon warps British captain Edwin Albert Taylor Bragg and his crew into outer space. Yep, that's right. If you're looking for a real exploration of what could have happened to the HMS *E18,* you won't find any answers here. What you will find is a colorfully campy fictional yarn with a gameplay hook that focuses primarily on resource management and survival.

You can customize your crew before you send them out to explore asteroids and battle with menacing alien creatures. The result is an interesting mix of third-person tactics—which can either be done in real time or paused for further contemplation—with roguelike elements. That basically means mission selection is partially random and permanent death is involved, so there's quite a bit of trial and error in *Tales from the Void.* Players are tasked with balancing combat and making sure they scavenge enough resources and maintain a solid air supply. Combined with the occasionally crazy physics, the action can get a little hectic from time to time, but there's some decent fun to be had throughout.

Tales from the Void may be out, but like many Steam releases it's in a constant state of improvement. At the time of this writing more achievements have been added, and a few more bugs were fixed in the process. PortaPlay has an interesting game on its hands, and hopefully it will only get better as further tweaks are implemented.

Union and Confederate armies but would draw in local civilians on both sides, causing hard feeling and deep tensions for all involved.

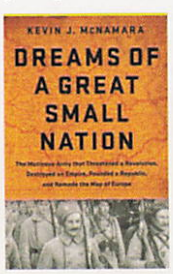
Written as a collection of essays on this often overlooked theater of the war, the book delves into the details of the fighting in the border region offering both accounts of major figures and local stories which always add a fascinating flavor to the overall tale. The authors are all acknowledged experts on their subject with extensive knowledge that is apparent from the first pages of their essays.



The Day the Renaissance Was Saved: The Battle of Anghiari and Da Vinci's Lost Masterpiece (Niccolo Capponi, Melville House, Brooklyn, NY, 2016, 298 pp., maps, illustrations, notes, bibliography, index, $26.95, hardcover)

The late afternoon sun beat down on two Italian armies on June 29, 1440. The army of Milan had been unstoppable up to this point, but now it faced the combined forces of Venice, Florence, and the Papal States near a bridge at the town of Anghiari. The battle's outcome helped bring the infamous Medici family to power at the dawn of the Renaissance. The battle was considered so significant at the time that no less an artist than Leonardo Da Vinci created a painting honoring it. All trace of this painting was subsequently lost for 400 years.

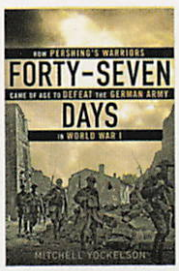
The author is both a scholar and descendant of Niccolo Machiavelli. He has created a fascinating account of a turbulent period in European history. Not only are the key figures covered in detail, but the tactics and strategies of the mercenary armies of the day also are included. Even the experiences of the participating soldiers are revealed.



Dreams of a Great Small Nation: The Mutinous Army that Threatened a Revolution, Destroyed an Empire, Founded a Republic and Remade the Map of Europe (Kevin J. McNamara, PublicAffairs Books, New York, 2016, 416 pp., notes, bibliography, index, $28.99, hardcover)

During World War I, the Eastern Front collapsed into chaos after the Russian Revolution began in 1917. The Austro-Hungarian Empire was collapsing during the same period, leaving millions of people at the mercy of forces beyond their control. The Czech-Slovak Legion was one such group. Many of these soldiers were former prisoners of war who were offered the chance to fight against their former leaders in return for their nation's freedom. They fought for the Allies until Russia dropped out of the war; after that occurred they were cast adrift in the middle of another country's civil war. Rather that fall apart, the legion began fighting its way back home.

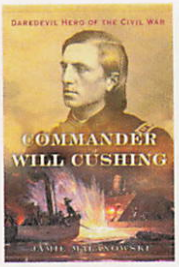
The amazing story of this brave group of men is little known in the Western World, whose interest in the Great War often ends at the German border. It is a tale of desperation, waning empires and political machinations, well-told in a detailed account. The author was awarded special grants to gather his research and translate it for the creation of this book and the thoroughness of his effort shows through in the quality of the work.



Forty-Seven Days: How Pershing's Warriors Came of Age to Defeat the German Army in World War I (Mitchell Yockelson, NAL Caliber, New York, 2016, 390 pp., maps, photographs, notes, bibliography, index, $28.00, hardcover)

When the U.S. Army began arriving in Europe in 1917, their allies did not expect much from them. The British and French saw the Yanks as inexperienced, immature, and ill-trained. They weren't completely wrong, but they underestimated the American's ability to learn, improvise and bring their energy and courage to the battlefield. They also wanted to distribute U.S. troops out among their own armies as penny-packet reinforcements. The American commander, General John Pershing refused to let that happen, realizing it would diminish his country's contribution to the war effort.

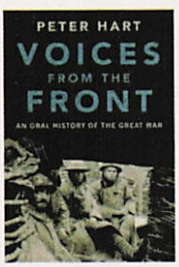
His own efforts paid off when the U.S. First Army fought in the battle of the Meuse-Argonne. After 47 days and 126,000 casualties the Americans emerged triumphant. This new book documents the way in which this army rose to the occasion through vignettes on many of the soldiers who served in it, both famous and unknown. Their stories are woven seamlessly into the greater narrative of the war. This work provides the reader a very thorough and entertaining account of the U.S. Army's first true foray onto the world stage.



Commander Will Cushing: Daredevil Hero of the Civil War (Jamie Malanowski, W.W. Norton, New York, 2016, 304 pp., illustrations, notes, bibliography, index, $17.95, softcover)

William Barker Cushing was one of the American Civil War's most daring heroes and a man few people have heard of today. He had a distinguished naval career despite the fact he was expelled from the Naval Academy for having a "talent for buffoonery." When the war broke out, however, he successfully pled for a second chance and took it seriously indeed. As a 21 year old lieutenant he led an expedition against the Confederate ironclad CSS *Albemarle*. During this mission he exploded a torpedo against the enemy ship's hull, sinking it at great risk to himself. Surviving this exploit, Cushing went on to command warships and hold other important posts until his death in 1874.

This interesting biography delves into Cushing's life in an engaging and fluid way, keeping the reader's interest throughout. He seems almost a fictional character due to his larger than life spirit and willpower; the author successfully brings these traits to the fore with vivid descriptions and a flair for clear prose. The result is a close look at a man once called "Lincoln's Commando."



Voices from the Front: An Oral History of the Great War (Peter Hart, Oxford University Press, Oxford, UK, 2016, 440 pp., notes, index, $34.95, hardcover)

Many years ago, the author was a young historian at the United Kingdom's Imperial War Museum. He conducted interviews with almost 200 of his country's surviving World War I veterans. This was the last chance to actually record the experiences of the war's participants before time took its inevitable toll. The results were later used to create this new work, a blend of these veteran testimonies and other accounts as well. The reader can build a picture of the war through the word of those who were there; life in the trenches, training and actions abroad from Western Europe to Palestine, Salonika and Africa. Attention is paid not only to how the men kept their wits through all this hellish war could throw at them, but also how experienced civilian life after the conflict ended and they returned home. The centennial of the war is still ongoing; books such as this allow long-departed voices to ring out once again in their pages. □

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fervor" he could muster after the papacy sent a wave of missionary Catholic priests, educated in new English seminaries founded in Europe, against England in 1574. To meet this potent threat, in 1577 Walsingham set up a number of castle prisons to hold those Englishmen who accepted the Catholic missionaries' teachings, or even Protestants who failed to strictly tow the Protestant religious line such as regularly attending Church of England services. He also sent men like Charles Sledd to infiltrate the Catholic seminaries in Europe and to forward to him lists of graduates of those institutions who travelled to England. These men were promptly arrested and imprisoned or executed. In 1581 Walsingham was authorized by the queen to interrogate those suspected of conspiring against her, especially Catholic clergy. The rack and other forms of torture were liberally used during these interviews.

Upon his appointment as Secretary of State in 1573, Walsingham assumed responsibility for implementing government intelligence-gathering operations centering on the growing Catholic threat, both internally and externally. These included religious-inspired plans to invade England,and fathoming the intentions of the major European powers.

Walsingham obtained international intelligence from many Italian agents he had used when he was ambassador to France. English custom agents operating in English ports provided him with material gleaned from their contact with all persons arriving and leaving the country. Further, English merchants abroad supplied reports to the secretary in exchange for favorable decisions regarding trading disputes. By 1580 he had agents in 12 cities in France, nine in Germany, four in Italy, four in Spain, three in the Low Countries, and others in the Ottoman Empire centers of Algiers, Tripoli, and Constantinople. These included authorized diplomatic personnel as well as ordinary citizens inserted into foreign legations. Although most of his agents were motivated by money, they proved to be surprisingly dependable and effective and even numbered among them famous men, such as playwright Christopher Marlowe, who worked for Walsingham in Paris and Rheims during 1587.

To make his spy operations work, Walsingham assembled a group of experts to organize and process the huge amount of intelligence that came into his hands. They worked out of his London home in Seething Lane located a few hundred yards from the Tower of London. One of the most important branches of his intelligence apparatus developed cryptology methods and a wide range of ways to secretly transmit messages by using cyphers, invisible ink, and other means.

The assassination of William of Orange in 1584 heightened the fear of a similar attempt on the life of Elizabeth I and caused Walsingham to look more closely at Mary Queen of Scots who would be the beneficiary of any successful plot against Elizabeth. The evidence Walsingham needed to connect Mary with conspiring to kill the queen was provided when Anthony Babington, a onetime courier to Mary, was arrested after he communicated with her in 1586 concerning a proposed uprising by English Catholics supported by a seaborne invasion of the country by foreign troops. Babington also wrote that he and a few others would support the local rising and invasion by murdering Queen Elizabeth. Babington's missive, as well as Mary's reply to it, in which she wrote that she supported both the hostile invasion of England and the overthrow of Elizabeth, fell into Walsingham's hands as it was fated to do since he secretly controlled all communications to and from Mary.

In September 1586, Babington and most of the conspirators were executed. Mary of Scots would go to her death the next year for her part in what would become known as the Babington Plot. Her death, at first rejected by Elizabeth, was finally ensured by a campaign of misinformation, including warning of an imminent invasion of England by Spain and reports of plans for Mary's recue and Elizabeth's assassination. Walsingham crafted these false stories to goad the queen to order her cousin's execution, which was carried out on February 8, 1587. Walsingham had little time to ruminate on the Scottish queen's death because the threat of a Spanish invasion of England was clearly on the horizon, and he had to find ways to deal with it.

What triggered the launching of the Spanish Armada was Spanish anger over Francis Drake's plundering of Spain's West Indies possessions in 1585 and the English military expedition sent to the Low Countries that same year. In 1585, to prevent a Spanish attack, Walsingham urged the English ambassador to Turkey to persuade the Turks to attack Spanish interests in the Mediterranean or strike at southern Spain. The effort failed, but it revealed Walsingham's penchant for preemptive action.

In early 1587 Walsingham received definite information from one of his agents based in Rome that Philip II of Spain was planning a seaborne landing in England. Within a few months his spies had provided him with an accurate picture of the size and plan of the Armada campaign. Walsingham urged a preemptive strike by the English on the staging ports where the armada was being assembled. The result was Drake's dramatic attack on Cadiz which not only destroyed 37 enemy ships but caused the sailing of the Armada against England to be delayed until the next year.

In another effort to short circuit a Spanish invasion, Walsingham got London financiers to urge the great Italian banking houses to deny loans to the Spanish. The Italian money lenders agreed and thus starved the armada of much needed operating funds, keeping it in port for most of 1587. At the same time, the secretary stepped up his surveillance of Philip's preparations by enlisting more spies on the Continent. He even was able to place one of his agents in the household of the first commander of the armada, the Duke de Santa Cruz. He knew that early warning of the armada's movements and plans would be vital for any effective English response.

Walsingham also practiced disinformation by feeding the enemy, through his paid agents, false intelligence ranging from which English harbors were suitable for disembarking Spanish troops to the tide and weather conditions off the English coast. At the same time, he spent the latter part of 1587 inspecting the militia that would defend the southern coast of England and helped plan the organization and deployment of regular English army troops. He even raised a contingent of 70 horsemen and 200 infantrymen for military service at his own expense.

The work Walsingham performed to help defeat the Spanish Armada was a triumph for his intelligence organization and the crowning achievement of his arduous service to Queen Elizabeth I. That hard work continued despite constant arguments over policy between Walsingham and the queen, and the illnesses, possibly cancer or kidney disease, that plagued him during the last two decades of his life.

On April 6, 1590, Walsingham died at his London home. Twelve days later a Spanish spy sent a report to Madrid, which among other items, mentioned Walsingham's passing. The agent closed his message with the statement that Sir Francis's death was greeted in England with" much sorrow." After reading the report, King Philip made a notation in the margins that while Walsingham's death might have been bad news for the English, it was good news for the Spanish. No doubt Walsingham would have smiled wryly at this unexpected tribute to his life's work. □

bloody miracle

Continued from page 43

German Stukas would appear occasionally, but after the terrors of the past weeks, some Tommies considered them more nuisances than objects of terror. The soldiers played games and swam, and some threw away their Enfield rifles and wandered aimlessly across the sands. Still others pilfered French wines and liquor and sat around the cafés chatting and drinking like tourists on holiday. One man even stripped to his shorts and sunbathed, contentedly reading a novel.

At times the German bombardment was more than just a nuisance, but the British had almost no antiaircraft guns because of a monumental mix up. In the original orders, spare gunners were to go to the beach, a directive that included wounded or incapacitated men. Maj. Gen. Henry Martin somehow misunderstood, thinking it meant that all gunners were to be evacuated.

Since all gunners were to leave, or so he thought, Martin ordered all his 3.7-inch artillery pieces to be destroyed, lest they fall into enemy hands. When Martin proudly reported to Adam that "all antiaircraft guns have been spiked," the latter was incredulous. This was stupidity beyond words. Baffled and weary, Adam merely replied, "You fool, go away."

Some Tommies complained that they saw little or nothing of the Royal Air Force. The RAF did its best, bombing enemy positions and sending up fighters during the daylight hours. At the end of Operation Dynamo, the RAF had lost 177 aircraft while the Germans lost 240. This was a foretaste of the Battle of Britain for the Germans, who were meeting an aerial foe equal, or in some cases, superior to them in equipment and personnel for the first time.

The English Channel, which is notorious for being capricious, "cooperated" with the British to a very remarkable degree. For nine crucial days it was flat calm, more like a millpond than a storm-swept waterway. This is not to say that passage to England was trouble free. Each route was in some way exposed to direct German attack or German-created hazards. Route Z was the shortest route, but it was within range of German batteries at Calais. Route X, to the southeast, avoided German artillery but was subject to shoals and mines. Route Y, which was 100 miles in a long, circuitous path, was subject to German air attack.

When their time came the British soldiers peacefully queued in long lines and walked into the surf. Arthur Divine, a civilian who was manning one of the little ships, remembered the British soldiers queuing up, "the lines of men wearily and sleepily staggering across the beach from the dunes to the shallows, falling into little boats, great columns of men thrust out into the water among bomb and shell splashes."

"The foremost ranks were shoulder deep [in the water], moving forward under the command of young subalterns, themselves with their heads just above water," said Divine. The BEF had no choice but to abandon all their equipment and vehicles, but some of the army trucks performed a final but nevertheless vital service. They were driven into the shallows and lashed together to form improvised jetties.

The evacuation would not have been possible without the sacrifice of British and French units outside the immediate Dunkirk region. Surrounded and under siege, the bulk of the French First Army held out at Lille until May 30. In the process, they managed to tie up no fewer than six German divisions. The First Army fought so well that the Germans granted them the full honors of war, including marching out into captivity preceded by a band playing lively martial airs.

The British garrison at Calais also performed heroically, although historians debate to what extent their defense held up the German advance. The Calais Force was led by Brig. Gen. Claude Nicholson and 4,000 men. Nicholson's command included some well-trained regulars, the King's Royal Rifle Brigade and 1st Rifle Brigade. There was also the 1st Queen Victoria's Rifles and elements of the 3rd Royal Tank Regiment

The Calais fortifications were outdated. The celebrated French engineer Vauban had designed some of the fortifications in the 17th century. Despite this defensive weakness, the garrison fought with great courage and tenacity for several days, but it finally succumbed to the enemy and surrendered on May 30. It probably bought some additional time for the evacuation process; given the crisis situation, every little bit helped.

Operation Dynamo continued until June 4, when it was clear French rearguard defenses were finally crumbling. Tennant sent a laconic but succinct message back to England: The official totals were gratifying. No fewer than 338,226 men were evacuated; of that number 139,000 were French. Earlier, more pessimistic estimates of the number of men rescued were as low as 45,000.

Great Britain was relieved that the BEF had escaped, but Churchill reminded the country, "Wars are not won by evacuations." Still, the BEF was a professional core that future armies could be built upon. As one British newspaper put it, the deliverance at Dunkirk was a "bloody miracle." □

lust for glory

Continued from page 59

of men and horses presented a horrifying spectacle, so bloody was the massacre."

Egyptians fleeing from the west bank floundered among Egyptians attacking from the east bank. The French showed no mercy but brought their cannons to the riverside. Morand remembered, "We fired canister at the thousands of heads we saw in the water." The Nile became a crocodiles' feast of frantically swimming men spattered with musket balls and grapeshot, drowning, dying, and finally swept away by the current "The combat had lasted but more than two hours, but two hours of indescribable horror," wrote Nicholas the Turk.

The Egyptians lost approximately 800 men. The French suffered 29 dead and 1,200 wounded. Their triumph, though, was short-lived. Eleven days later, at 10 PM on the evening of August 1, Kléber's garrison in Alexandria saw a flash of light and heard an explosion from the direction of Aboukir Bay 20 miles away: the French flagship *Orient,* blowing up at the Battle of the Nile. Nelson had returned, demolished the French fleet, and cut Bonaparte off from home. However, the ensuing British blockade had an unintended effect: it made Napoleon more than just a conquering general. He became a head of state.

"The loss of the fleet convinced General Bonaparte of the necessity of speedily and effectively organising Egypt," wrote Bourienne. "War, fortifications, taxation, government, the organization of the divans [government councils], trade, art, and science, all occupied his attention." Under Napoleon's administration Europe rediscovered Egypt: the long-forgotten ruins at Thebes, Luxor, and Karnak; the Rosetta Stone, which ultimately led to the deciphering of ancient hieroglyphics.

It might even be said that Bonaparte's Egyptian Campaign presaged his conquest of Europe. His experience in governance gave him the confidence to return home, depose France's Directory, and proclaim himself First Consul, then Emperor. His decisive defeat of the Egyptians along the Nile is certainly reflected in the tactics he used at Ulm and Austerlitz, Quatre Bras, and Ligny. His ill-fated march into Syria, culminating in the failed siege of Acre and subsequent plague-cursed withdrawal, foreshadowed the infamous 1812 advance to and retreat from Moscow. The impervious infantry squares that defied Murad Bey before the Pyramids would equally prove the undoing of Napoleon 17 years later at Waterloo. □

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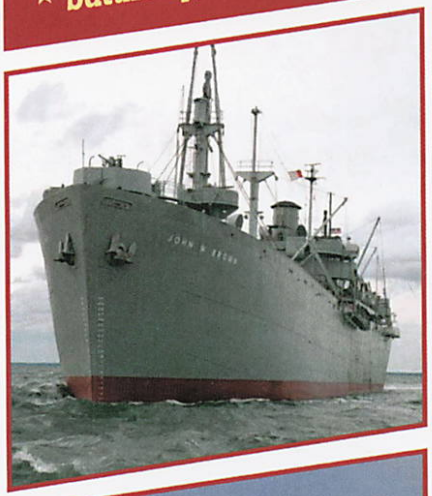

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